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ILLUSTRATED  
Annual Register  
OF  
RURAL AFFAIRS,  
FOR  
1858.



WITH 130 ENGRAVINGS.

NUMBER FOUR.

ALBANY:  
LUTHER TUCKER & SON,

1858.

LOSSING-BARRITT, N.Y.



# RURAL PUBLICATIONS

TO  
Record, Impart,  
AND  
ILLUSTRATE  
THE BEST  
PRACTICE;  
TO  
Advancement



IN  
Rural Economy  
AND  
RURAL TASTE;  
TO  
IMPROVE  
THE  
Soil and the Mind.

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THE COUNTRY GENTLEMAN was commenced in 1853. The Variety, Soundness and Practical nature of its contents, not less than the STRICTLY NATIONAL character of its circulation, have rendered it the favorite authority of the Best Farmers in all parts of the country, and the repository of the most valuable results of their Experience. No expense or pains have been, or will be, spared by its Editors or Publishers, to place it beyond competition in the extent and interest of its Correspondence, Domestic and Foreign; in its Illustrations and general Typographical Execution. Containing from week to week, in their season, more or less upon all of the following wide range of subjects, it is offered with confidence as furnishing

### A Complete Manual for every Country Resident :

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| I. PRACTICAL FIELD HUSBANDRY: all the Crops and Processes of Improved Farming. | VI. RURAL ARCHITECTURE—DOMESTIC ECONOMY—ENTOMOLOGY—BOTANY.                    |
| II. DOMESTIC ANIMALS: Breeds, Diseases, Fattening and Management.              | VII. PROGRESS OF AGRICULTURE: Sales and Shows; New Implements and Inventions. |
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Albany, N. Y.**

THE  
ILLUSTRATED ANNUAL  
REGISTER OF RURAL AFFAIRS  
AND  
CULTIVATOR ALMANAC,  
FOR THE YEAR 1858,

CONTAINING PRACTICAL  
SUGGESTIONS FOR THE FARMER AND HORTICULTURIST,  
EMBELLISHED WITH ONE HUNDRED AND THIRTY ENGRAVINGS,  
INCLUDING HOUSES, FARM BUILDINGS, IMPLEMENTS,  
DOMESTIC ANIMALS, FRUITS, FLOWERS, &c.

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BY J. J. THOMAS,

AUTHOR OF THE "AMERICAN FRUIT CULTURIST," AND "FARM IMPLEMENTS,"  
ASSOCIATE EDITOR OF THE "COUNTRY GENTLEMAN" AND "CULTIVATOR."

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ALBANY, N. Y.:

LUTHER TUCKER & SON, 397 BROADWAY.

NEW-YORK: C. M. SAXTON & CO., 140 FULTON ST.

1858.



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## PREFACE.

THE ANNUAL REGISTER OF RURAL AFFAIRS has reached its Fourth year. The Publishers may express the belief that the present Number, in the character of its Contents, will fully maintain the high reputation acquired by its predecessors, while the expenses incurred in its publication, for Illustrations, &c., have been much increased. They trust by issuing it more promptly than heretofore, to secure a demand sufficiently enlarged to render these improvements remunerative.

A few words of explanation as to the design and scope of the REGISTER are here appropriate. 1. The Numbers are composed from year to year, of entirely different matter, the articles discussed being either new, or treated in continuation of chapters previously given. 2. It is NOT A COMPILATION, but wholly original with the Author,—now for the first time appearing in print, with the exception of some revised extracts from his previous publications. Editors, in copying, are requested in all cases to add appropriate “credit,”—a very general and provoking disregard of which just acknowledgment, in respect to previous issues, rendering this caution on our part imperatively necessary. 3. By abundant Illustrations, it is purposed to render the work attractive to those who have yet read little on the subject of rural pursuits,—serviceable in cultivating a taste for them in young and old,—and ornamental to the eye, as well as of still greater practical utility. 4. By embracing all the details of Improved Farming, according to the best practice of the day, and all matters of Horticultural and Domestic interest to Country Residents; by clear and concise language, compressing into each Number as many facts of value and including as wide a scope as possible, and by introducing from year to year, all improvements and information from the latest sources at command, it is designed to render it at once a “miniature encyclopedia” of Rural Economy and Rural Taste, and an authentic ANNUAL REGISTER of the true progress of Rural Improvement.

The Publishers of the ANNUAL REGISTER would also remark that it offers peculiar inducements as a work for gratuitous distribution, to public bodies or individuals desirous of aiding in the dissemination of reliable Agricultural reading, and of awakening a taste for it among the farming community at large. It is suggested to Agricultural and Horticultural Societies for a place on their Prize Lists, or as a cheap and attractive present to their members. In conclusion, the Publishers desire to express their acknowledgments for the general favor and commendation with which it has thus far been received. Those who are unacquainted with the previous Numbers, as well as those who desire a more substantial edition of them for Library preservation, and reference, are referred to the Advertisement of Volume One, on the next page.

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## “RURAL AFFAIRS”—Volume One.

THE care with which the Contents of the successive numbers of the ANNUAL REGISTER OF RURAL AFFAIRS have been prepared, the expense laid out upon the Illustrations they contain, and the universal favor with which they have been greeted,—induce the Publishers to issue a new edition of the three numbers previous to 1858, in one volume, under the above simple and comprehensive title. The Calendar pages and Advertisements of each year, have been omitted, the quality of the paper greatly improved, and the whole subjected to careful revision. The New Volume is offered as the most comprehensive, attractive, and valuable work of its size that has yet appeared upon Rural subjects. It contains FOUR HUNDRED AND FORTY ILLUSTRATIONS, among which are the following :

Designs and Plans of Country Dwellings, .....	44	Engravings.
do. do. School Houses, .....	8	“
Out-Buildings — Barns ; Stables ; Carriage, Poultry, Dairy and Smoke Houses ; Piggery, &c., .....	36	“
Rustic Structures ; Rock Work, &c., .....	25	“
Laying Out the Grounds of Farms, Gardens, Orchards, &c., .....	35	“
Figures of the Best Fruits of all kinds, .....	71	“
Various Processes in the Care and Culture of Fruit, .....	77	“
Trees and Ornamental Plants, .....	20	“
Improved Implements and Machines, .....	63	“
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The remainder include Engravings on miscellaneous matters connected with the Farm or Farm-House—illustrative of processes in the Dairy, Drying Fruits, Lightning Rods, Wind Mills, Injurious Insects, Packing Trees, Shocking Grain, &c., &c.

The subjects of the above Engravings will give some idea of the contents of the work itself—of which, however, a more complete, although a very much condensed summary, may be of interest :

### Country Dwellings.

Under this head we have Fifteen Designs accompanied with Plans, in many instances of several floors, and ranging in expensiveness from the Working Man's or Tenant Cottage, at a cost of \$200, to Gothic and Italian Structures of several thousands—including Farm and Village Residences, aiming rather at neatness and taste, than mere display—at convenience and comfort within, as well as an attractive exterior. Also General Rules for Building, and Remarks on the Art of Planning a House.

### Laying Out

A Farm, Garden or Orchard, in an economical way, is a very important matter. We have four Articles on Laying Out Farms, with two general Plans,—two on Grounds around Houses and Flower Gardens,—eight on different Modes of Planting, and the Trees and Shrubs to be employed.

### What Fruits to Choose.

Here we have Complete Descriptions of SIXTY-ONE Varieties of Apples, Summer, Fall and Winter, Sweet and Sour ; FIFTY-FOUR of Pears, Summer, Autumn and Winter ; TWENTY-EIGHT of Peaches ; SIX of Nectarines ; FOUR of Apricots ; THIRTY-FOUR of Plums ; TWENTY-EIGHT of Cherries ; THIRTEEN of Strawberries ; and a Dozen of Native and Foreign Grapes. Also approved lists at still greater length, and smaller select lists for limited assortments.

### Domestic Animals.

Portraits of the Best Breeds of Improved Cattle, Horses, Sheep, Swine, &c. A valuable paper on Doctoring Sick Animals, with Rules and Remedies of a simple kind. Eight of the more frequently met with Diseases of Horses, nine of Cattle, seven of Sheep and four of Swine, are particularly referred to, and appropriate treatment recommended.

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**Fruit Culture.**

Under this we have in Twenty-two Articles, almost every subject of importance in the Management of an Orchard, thoroughly and clearly explained—including the treatment of nearly all the large and small Fruits, many of their Diseases and their worst Insect enemies, together with a large number of brief Notes, containing invaluable hints and suggestions.

**Farm Buildings.**

Eight Plans for Barns, Carriage Houses and Stables, are here presented, with Designs also for Piggery, Poultry Houses, Ashery and Smoke House,—mode of Cistern-building, of putting up Lightning Rods, &c., &c.

**Farm Implements.**

Here we have Twenty-three articles, embracing much serviceable information—including the best Mowing and Reaping Machines, Plows, Planters, &c., together with more or less about nearly all the Implements the Farmer uses; illustrated chapters on Wind Mills, Stump Machines, Steam Engines, and many other inventions of interest.

**School Houses.**

A Chapter with several neat and tasteful Designs is devoted to this subject.

This work is issued in the best typographical style, containing over Three Hundred pages, muslin binding,—price \$1. Agents are wanted to sell it in all parts of the country, and the attention of Agricultural Societies, Post Masters, Booksellers, Storekeepers and others, is particularly requested to its attractiveness, interest and value, arising from the wide range of subjects treated, the conciseness and practical character of the articles, and the beauty and profusion of the accompanying Engravings. There is scarcely a village or post office at which a dozen would not meet with ready sale.

Single copies sent post-paid for One Dollar. Address orders, or inquiries for terms at wholesale, to

LUTHER TUCKER & SON,  
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A WEEKLY JOURNAL,

Exclusively devoted to every branch of Rural Art,—all the processes of the Farm and Garden,—all means of Progress, either for Agriculture or the Agriculturist, and aiming to take THE FIRST RANK IN EVERY DEPARTMENT within its appropriate sphere. Making two volumes a year, each of 416 large quarto pages, at the low price of \$2.

**Butter and Cheese Making.**

The best modes and means are treated at considerable length, accompanied by Thirteen Engravings, including Designs for Dairy Houses.

**Rustic Seats and Structures.**

On this subject many hints are presented, with Twenty-three Engravings, including Rock Work, Flower Stands, Summer Houses, &c., &c.

**Rural Economy.**

Articles on Rotation of Crops, Improved Farm Management, Economy for Young Farmers, Facts for Farmers, Paints for Fences and Buildings, Satisfactory Farming, Sprouting in Wheat, Packing Trees and Plants, Presence of Mind, and many brief Notes, the fruits of the Author's experience and observation, may be grouped under this head.

**Weights and Measures.**

Tables for reference are here given, including Length and Distance, Specific Gravities, Contents and Size of Cisterns, Velocity of Wind, &c.

**Domestic Economy.**

A number of pages are devoted to valuable and well tested recipes for household use.

**The Cultivator,**

A MONTHLY JOURNAL,

Which will enter upon its Twenty-fifth year, in 1858. It includes the more brief and practical articles that appear in the Weekly, and presents in each annual volume nearly double the amount of matter contained in any other similar work. It is offered at the low price of Fifty Cents, and Clubs are presented with the ANNUAL REGISTER.



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# THE CULTIVATOR ALMANAC FOR 1858.

CALCULATED BY SAMUEL H. WRIGHT, DUNDEE, YATES CO., N. Y.

## CUSTOMARY NOTES.

**MERCURY.**—This planet will be visible in the west soon after sunset, about April 17, Aug. 15, and Dec. 10th; also in the east before sunrise, about Feb. 10, June 10, and Oct. 3.

**MORNING AND EVENING STARS.**—Venus will be morning star until Feb. 28—then evening star until Dec. 13th.

Mars will be morning star until May 15th—then evening star the rest of the year.

Jupiter will be evening star until May 19th—then morning star until Dec. 8th.

Saturn will be morning star until Jan. 15th—then evening star until July 25th—then morning star the rest of the year.

**CYCLES, ETC.**—Dominical Letter C.—Epact 15—Golden Number 16—Solar Cycle 19—Julian Period 6571—Ash Wednesday Feb. 17—First Sunday in Lent, Feb. 21—Good Friday, April 2—Easter Sunday, April 4—Pentecost, May 23—Trinity, May 30—Advent, Nov. 28.

**THE SEASONS.**—Spring begins March 20, 4h. 28m. evening.

Summer begins June 21, 1h. 5m. evening.

Autumn begins Sept. 23, 3h. 17m. morning.

Winter begins Dec. 21, 9h. 4m. evening.

## ECLIPSES FOR 1858.

There will be two Eclipses of the Moon, and two of the Sun, this year.

I. A Partial Eclipse of the Moon Feb. 27th, in the evening, on the southern limb. This Eclipse will be visible in the Eastern part of the United States, being about one-fourth of the Moon in size in the New-England States, and about from 1 to  $2\frac{1}{2}$  digits in the other States east of the longitude of Washington. THE MOON WILL RISE WITH THE ECLIPSE UPON IT. The END of Eclipse will be as follows:—Boston 6 h. 33 m.—Hartford 6.27—Albany 6.22—New-York 6.21—Philadelphia and Utica 6.17—Auburn 6.11—Washington and Geneva 6.9—Rochester 6.6—Buffalo 6.2—Pittsburgh 5.57. The Moon rises at Boston at 5.43—at New-York 5.45—and at Washington 5.47.

II. An Annular Eclipse of the Sun March 15th, in the morning, which will be a PARTIAL Eclipse in the United States, and as such will be visible in the United States east of Wisconsin, Illinois and Mississippi, the Eclipse being upon the southern limb. The SUN WILL RISE with the Eclipse upon it. It ends at Boston at 7h 48m.—at New-York 7h. 31m.—at Philadelphia 7h. 25m.—at Washington 7h. 11m.—and at Cincinnati at 6h. 43m. Size in the United States about 5 digits.

III. A Partial Eclipse of the Moon August 24th, in the morning. Invisible in the United States except upon the Pacific coast.

IV A Total Eclipse of the Sun Sept. 7th. Invisible in the United States, except a mere contact of limbs in Florida, Louisiana and Texas.

## TIDE TABLE.

The Calendar pages of this Almanac exhibit the time of high-water at New-York and Boston. To find the time of high-water at any of the following places, *add* to, or *subtract* from, the time of high-water at New-York, as below. (There is a great deal of uncertainty about the tides, in consequence of the direction and *strength* of the winds.)

	H. M.		H. M.		H. M.
Albany, .....	add 6 34	Hellgate, .....	add 1 41	Portland, .....	add 3 12
Annapolis, Md., .....	add 8 25	Marblehead, .....	add 1 49	Portsmouth, .....	add 3 10
Annapolis, N. S., .....	add 1 49	Machias, .....	add 1 54	Providence, .....	sub. 0 41
Amboy, .....	sub. 0 39	Mobile Point, .....	add 1 54	Quebec, Canada, .....	add 8 49
Baltimore, .....	add 10 20	New-Bedford, .....	sub. 0 16	Richmond, .....	add 8 15
Bridgeport, .....	add 3 58	New-Haven, .....	add 3 3	Salem, .....	add 3 00
Cape Split, .....	add 2 0	New-London, .....	add 1 15	Sandy Hook, N. J., .....	sub. 0 44
Eastport, .....	add 2 9	Newport, .....	sub. 0 28	St. John, N. B., .....	add 2 49
Halifax, N. S., .....	sub. 2 15	Norfolk, .....	sub. 0 41	Sunbury, .....	add 0 19
Holmes' Hole, .....	add 3 30	Plymouth, .....	add 2 19	Windsor, .....	add 2 49

## TABLE OF THE PRINCIPAL BODIES IN THE SOLAR SYSTEM.

NAMES.	Mean diameter.	Mean distance fr'm the Sun.	Revolu- tion aro'nd the Sun.	Revolu- tion on axis.	Veloci- ty per min. in orbit.	Size : the Earth be- ing 1.	Dens. Earth being one.	Light, Earth being one.
	Miles.	Miles.	yrs. days.	d. h. m.	Miles.			
THE SUN, ..	883,246	.....	.....	25 9 59	.....	1,412,921.100	0.252	infin.
Mercury, ..	3,224	36,814,000	--- 88	1 0 5	1,827	0.053	1.120	6.680
Venus, ....	7,687	68,787,000	--- 224	-- 23 21	1,338	0.909	0.923	1.911
The Earth, ..	7,912	95,103,000	1 ---	-- 23 56	1,138	1.000	1.000	1.000
THE MOON, ..	2,180	95,103,000	1 ---	27 7 43	38	0.020	0.615	1.000
Mars, .....	4,189	144,908,000	1 321	1 0 37	921	0.125	0.948	0.431
Jupiter, ...	89,170	494,797,000	11 215	-- 9 56	496	1,456.000	0.238	0.037
Saturn, ....	79,042	907,162,000	29 167	-- 10 29	368	771.000	0.138	0.011
Uranus, ...	35,112	1,824,290,000	84 6	1 13 33	259	80.000	0.242	0.003
Neptune, ...	41,500	2,854,000,000	164 226	-- -- --	208	143.000	0 140	0 001

**DIRECTIONS FOR FINDING THE TRUE TIME.**—The Sun is on the meridian at 12 o'clock on four days only in the year. It is sometimes as much as  $16\frac{1}{4}$  minutes before or after 12 when its shadow strikes the noon-mark on the sun-dial. On each calendar page of this Almanac is shown the exact time when the Sun reaches the meridian, or the shadow the noon-mark; and in order to set a clock or watch correctly, it must, when it is noon by the sun-dial or noon-mark, be set at the time indicated in the Almanac. Thus, on the 25th of January, when the Sun is on the noon-mark, the watch must be set 12 minutes and 41 seconds past twelve, which will be the true time. The practice of setting time-pieces by the rising or setting of the Sun or Moon is not strictly correct; as the unevenness of the Earth's surface and intervening objects, such as hills and forests, near the points of rising and setting, occasion a deviation, in every place, from the time expressed in the Almanac, which time is adapted to a smooth, level horizon. The only means of keeping correct time is by the use of a noon-mark, or a meridian-line.

**TO ASCERTAIN THE LENGTH OF THE DAY AND NIGHT.**—At any time of the year, add 12 hours to the time of the Sun's setting, and from the sum subtract the time of rising, for the *length of the day*. Subtract the time of setting from 12 hours, and to the remainder add the time of rising next morning, for the *length of the night*. These rules are equally true for *apparent* time.



## MOON'S PHASES.

		Boston.	N. York	Baltimore	Pittsbu'gh	Cincinnati
	D	H M	H M	H M	H M	H M
LAST QUARTER, .....	6	8 3 e	7 51 e	7 41 e	7 28 e	7 10 e
NEW MOON, (14th*) .....	15	0 48 m	0 36 m	0 26 m	0 13 m	*11 55 e
FIRST QUARTER, .....	22	0 13 e	0 1 e	11 51 m	11 38 m	11 20 m
FULL MOON, .....	29	4 28 m	4 16 m	4 6 m	2 53 m	2 35 m

DAY OF MONTH	DAY OF WEEK	CALENDAR					CALENDAR					CALENDAR				
		For Boston, N. England, New-York State, Michigan, Wiscon., Iowa and Oregon.					For N. York, City Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.					For Washington, Mary'ld, Virg'a, Kent'y, Miss'ri, and California.				
		Sun at the Noon mark.	SUN rises	SUN sets.	MOON rises.	H. W. Bost.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises	SUN sets.	MOON rises			
		Evening.	H M S	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M
1	F		12 3 57	7 30 4 38	6 52	ev. 52	7 25 4 43	6 56	9 38	7 19 4 49	7 1					
2	S		12 4 25	7 30 4 39	8 8	1 40	7 25 4 44	8 11	10 26	7 19 4 50	8 14					
3	S		12 4 53	7 30 4 40	9 19	2 25	7 25 4 45	9 21	11 11	7 19 4 51	9 22					
4	M		12 5 21	7 30 4 41	10 27	3 10	7 25 4 46	10 27	11 56	7 19 4 52	10 28					
5	T		12 5 47	7 30 4 41	11 31	3 54	7 25 4 46	11 31	ev. 40	7 19 4 52	11 30					
6	W		12 6 14	7 30 4 42	morn	4 38	7 25 4 47	morn	1 24	7 19 4 53	morn					
7	T		12 6 40	7 30 4 43	35	5 23	7 25 4 48	33	2 9	7 19 4 54	31					
8	F		12 7 5	7 30 4 44	1 39	6 17	7 25 4 49	1 36	3 3	7 19 4 55	1 32					
9	S		12 7 30	7 30 4 45	2 44	7 7	7 25 4 50	2 39	3 53	7 19 4 56	2 34					
10	S		12 7 55	7 29 4 46	3 47	8 3	7 24 4 51	3 41	4 49	7 19 4 57	3 35					
11	M		12 8 19	7 29 4 47	4 48	8 58	7 24 4 52	4 42	5 44	7 18 4 58	4 35					
12	T		12 8 42	7 29 4 48	5 48	9 51	7 24 4 53	5 41	6 37	7 18 4 59	5 33					
13	W		12 9 5	7 28 4 49	6 41	10 40	7 23 4 54	6 34	7 26	7 18 5 0	6 27					
14	T		12 9 27	7 28 4 50	sets	11 25	7 23 4 55	sets	8 11	7 17 5 1	sets					
15	F		12 9 48	7 27 4 52	5 20	morn	7 22 4 57	5 25	8 56	7 17 5 2	5 30					
16	S		12 10 9	7 27 4 53	6 28	10	7 22 4 58	6 32	9 36	7 16 5 3	6 36					
17	S		12 10 29	7 26 4 54	7 37	50	7 21 4 59	7 40	10 18	7 16 5 4	7 42					
18	M		12 10 48	7 25 4 56	8 44	1 32	7 20 5 1	8 45	10 52	7 16 5 6	8 47					
19	T		12 11 6	7 25 4 57	9 53	2 6	7 20 5 2	9 53	11 33	7 15 5 7	9 53					
20	W		12 11 24	7 24 4 58	11 2	2 47	7 19 5 3	11 1	morn	7 14 5 8	10 59					
21	T		12 11 41	7 23 4 59	morn	3 32	7 18 5 4	morn	18	7 14 5 9	morn					
22	F		12 11 57	7 22 5 1	13	4 20	7 18 5 5	11	1 6	7 13 5 10	8					
23	S		12 12 13	7 22 5 2	1 20	5 15	7 17 5 6	1 16	2 1	7 12 5 11	1 12					
24	S		12 12 27	7 21 5 3	2 51	6 25	7 16 5 7	2 46	3 11	7 12 5 12	2 40					
25	M		12 12 41	7 20 5 4	4 4	7 32	7 16 5 8	3 58	4 18	7 11 5 13	3 51					
26	T		12 12 54	7 19 5 5	5 15	8 45	7 15 5 9	5 10	5 31	7 10 5 14	5 2					
27	W		12 13 6	7 19 5 7	6 18	9 54	7 14 5 11	6 12	6 40	7 9 5 15	6 4					
28	T		12 13 17	7 18 5 8	rises	10 54	7 13 5 12	rises	7 40	7 9 5 16	rises					
29	F		12 13 28	7 17 5 9	5 40	11 42	7 13 5 13	5 43	8 28	7 8 5 17	5 48					
30	S		12 13 38	7 16 5 11	6 56	ev. 32	7 12 5 15	6 59	9 18	7 7 5 19	7 1					
31	S		12 13 46	7 15 5 12	8 8	1 12	7 11 5 16	8 9	9 58	7 7 5 20	8 10					

## Hints for January.

A test of good management is well exhibited in the manner a farmer carries his stock through winter. When an animal is kept comfortable, it keeps fat; when it suffers, flesh wastes. Hence, all wants are to be promptly supplied. If an animal shivers in the cold, shelter it in stables or sheds; if damp and dirt annoy it, curry it, and give it clean litter; if delay in its stated meals causes fretting, then always be scrupulously regular. A bad far-

mer wastes tons of hay by throwing it under foot in the dirt, instead of into feeding-racks; he wastes other tons by the increased quantity shivering animals exposed to cold winds, must eat; he wastes the flesh of his cattle and sheep by exposure; by irregular or scant feed and water; by dirty quarters for them; and by not attending to cleanliness and comfort in every particular.

Subscribe for a good agricultural paper.

## MOON'S PHASES

		Boston.	N. York.	Baltimore	Pittsbu'gh	Cincinnati
	D	H M	H M	H M	H M	H M
LAST QUARTER, .....	5	4 33 e	4 21 e	4 11 e	3 58 e	3 40 e
NEW MOON, .....	13	5 29 e	5 17 e	5 7 c	4 54 e	4 36 e
FIRST QUARTER, .....	20	8 15 e	8 3 e	7 53 c	7 40 e	7 22 e
FULL MOON, .....	27	5 21 e	5 9 e	4 59 c	4 46 c	4 28 e

DAY OF MONTH.	DAY OF WEEK.	CALENDAR				CALENDAR				CALENDAR			
		For Boston, N. England				For N. York City, Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.				For Washington, Mary'ld Virg'a, Ken'ty, Miss'sri, and California.			
		Sun at the Noon mark.	SUN rises	SUN sets.	MOON rises	H. W. Bost.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises.	SUN sets.	MOON rises.
		Evening.	H M S	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M
1	M	12 13 54	7 14	5 14	9 15	1 52	7 10	5 18	9 14	10 38	7 6	5 22	9 14
2	T	12 14 2	7 12	5 15	10 21	2 27	7 9	5 19	10 18	11 13	7 5	5 23	10 18
3	W	12 14 8	7 11	5 17	11 25	3 10	7 8	5 20	11 22	11 56	7 4	5 24	11 19
4	T	12 14 14	7 10	5 18	morn	3 53	7 7	5 21	morn	ev. 39	7 3	5 25	morn
5	F	12 14 19	7 9	5 19	30	4 40	7 6	5 22	25	1 26	7 2	5 26	21
6	S	12 14 22	7 8	5 21	1 35	5 29	7 5	5 24	1 30	2 15	7 1	5 27	1 25
7	S	12 14 26	7 7	5 22	2 40	6 29	7 4	5 25	2 34	3 15	7 0	5 28	2 27
8	M	12 14 28	7 6	5 24	3 39	7 31	7 3	5 26	3 32	4 17	6 59	5 29	3 24
9	T	12 14 30	7 5	5 25	4 33	8 29	7 2	5 28	4 26	5 15	6 58	5 30	4 18
10	W	12 14 31	7 3	5 26	5 23	9 27	7 0	5 29	5 16	6 13	6 57	5 31	5 8
11	T	12 14 31	7 2	5 27	6 1	10 18	6 59	5 30	5 55	7 4	6 56	5 32	5 49
12	F	12 14 30	7 1	5 29	6 35	11 0	6 58	5 32	6 30	7 46	6 55	5 34	6 25
13	S	12 14 29	7 0	5 30	sets	11 42	6 56	5 33	sets	8 28	6 54	5 35	sets
14	S	12 14 27	6 58	5 31	6 33	morn	6 55	5 34	6 35	9 9	6 53	5 36	6 36
15	M	12 14 24	6 57	5 32	7 43	23	6 54	5 35	7 43	9 49	6 51	5 37	7 44
16	T	12 14 20	6 55	5 33	8 52	1 3	6 53	5 36	8 51	10 24	6 50	5 38	8 51
17	W	12 14 16	6 54	5 34	10 4	1 38	6 51	5 37	10 2	11 5	6 49	5 39	9 59
18	T	12 14 11	6 52	5 36	11 19	2 19	6 50	5 38	11 16	11 51	6 48	5 40	11 12
19	F	12 14 5	6 51	5 37	morn	3 5	6 49	5 39	morn	morn	6 47	5 41	morn
20	S	12 13 58	6 49	5 39	36	4 9	6 47	5 41	31	55	6 45	5 42	26
21	S	12 13 51	6 48	5 40	1 52	5 1	6 46	5 42	1 45	1 47	6 44	5 43	1 39
22	M	12 13 44	6 47	5 41	3 5	6 14	6 44	5 43	2 58	3 0	6 43	5 44	2 50
23	T	12 13 35	6 45	5 43	4 10	7 30	6 43	5 45	4 3	4 16	6 42	5 46	3 55
24	W	12 13 26	6 43	5 44	5 2	8 41	6 41	5 46	4 56	5 27	6 40	5 47	4 49
25	T	12 13 16	6 42	5 45	5 42	9 44	6 39	5 47	5 36	6 30	6 39	5 48	5 31
26	F	12 13 6	6 41	5 46	6 12	10 35	6 38	5 48	6 9	7 21	6 38	5 49	6 4
27	S	12 12 55	6 39	5 47	rises	11 16	6 37	5 49	rises	8 2	6 36	5 50	rises
28	S	12 12 44	6 37	5 48	6 54	12 0	6 36	5 49	6 55	8 46	6 34	5 51	6 55

## Hints for February.

Every farmer should continue to give the best attention to his domestic animals. It is diligence only that can be crowned with success. The farmer must not trust too much to his help, but see for himself.

Is the COMFORT of his cattle, sheep, and pigs, and their consequent thrift, consulted in every particular?

Do they always have enough of good food?

Is it regularly given to them, and the fretting and waste of flesh occasioned by delay avoided?

Are they kept well sheltered, and not

shivering away their flesh in the cold and storms?

Are they kept clean, and not losing their flesh by the discomfort of a dirty hide?

Are cleanliness and warmth both together well attended to, in the supply of clean litter?

Is that other requisite of comfort, plenty of good water, always at hand?

Are ruta bagas, carrots, and other roots, freely mixed with dry food, and regularly fed to them?

Are feeding racks and boxes well provided, to prevent waste of fodder, and treading it into mud and manure?



## MOON'S PHASES.

		Boston.	N. York.	Baltimore	Pittsbu'gh	Cincinnati
	D	H M	H M	H M	H M	H M
LAST QUARTER,.....	7	1 27 e	1 15 e	1 5 e	0 52 e	0 34 e
NEW MOON,.....	15	7 28 m	7 16 m	7 6 m	6 53 m	6 35 m
FIRST QUARTER,.....	22	2 59 m	2 47 m	2 37 m	2 24 m	2 6 m
FULL MOON,.....	29	7 24 m	7 12 m	7 2 m	6 49 m	6 31 m

DAY OF MONTH.	DAY OF WEEK.	CALENDAR								CALENDAR								CALENDAR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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		Evening.			SUN rises	SUN sets.	MOON rises.	H. W. Bost.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises	SUN sets.	MOON rises																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		H M S	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M

## Hints for March.

Finish all winter jobs before the driving work of spring comes on—get tools, implements, and everything else in readiness for the approaching season—see that plows, carts, harrows, rakes, and other things, are in good order and rigged for work,—and clevises, chains, hoes and spades, are all in their places, that men and teams may not stand idle by half-hour searches. Let all fire-wood be drawn, cut up and housed for use during the coming

summer, so that good dry wood may be always at hand, with no interruption to other work—and a smoky kitchen, sore eyes, sour bread, delayed meals, and work behindhand, all from wet wood, entirely prevented. Fences should be repaired when the weather will admit, rails laid up, loose boards nailed to posts, and gates kept well hung, in freely swinging, self-shutting and self-latching order. Cows with young calves should be attended to.

## MOON'S PHASES.

		Boston.	N. York.	Baltimore	Pittsbu'gh	Cincinnati
	D	H M	H M	H M	H M	H M
LAST QUARTER, .....	6	8 59 m	8 47 m	8 37 m	8 24 m	8 6 m
NEW MOON, .....	13	6 31 e	6 19 e	6 9 e	5 56 e	5 38 e
FIRST QUARTER, .....	20	9 42 m	9 30 m	9 20 m	9 6 m	8 48 m
FULL MOON, .....	27	10 12 e	10 0 e	9 50 e	9 36 e	9 18 e

DAY OF MONTH.	DAY OF WEEK.	CALENDAR							CALENDAR							CALENDAR						
		For Boston, N. England, New-York State, Michigan, Wisconsin, Iowa and Oregon.							For N. York City, Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.							For Washington, Mary'ld, Virg'a, Kent'y, Miss'ri, and California.						
		Sun at the Noon mark.	SUN rises	SUN sets.	MOON rises	H. W. Bost.			SUN rises	SUN sets.	MOON rises.	H. W. N. Y.				SUN rises	SUN sets.	MOON rises.				
		Evening.	H M S	H M	H M	H M	H M		H M	H M	H M	H M				H M	H M	H M				
1	T		12 3 53	5 43	6 26	10 9	1 21		5 45	6 24	10 3	10 7				5 46	6 22	9 58				
2	F		12 3 35	5 41	6 27	11 15	2 1		5 42	6 25	11 8	10 47				5 44	6 23	11 2				
3	S		12 3 17	5 40	6 28	morn	2 43		5 41	6 26	morn	11 29				5 43	6 24	11 58				
4	S		12 2 59	5 38	6 29	13	3 34		5 39	6 27	6 ev.	20				5 41	6 25	morn				
5	M		12 2 41	5 36	6 30	1 6	4 27		5 37	6 28	59	1 13				5 39	6 25	52				
6	T		12 2 24	5 34	6 31	1 53	5 24		5 35	6 29	1 47	2 10				5 38	6 26	1 39				
7	W		12 2 7	5 32	6 32	2 31	6 26		5 33	6 30	2 25	3 12				5 37	6 27	2 19				
8	T		12 1 50	5 30	6 33	3 3	7 26		5 31	6 31	2 59	4 12				5 35	6 28	2 53				
9	F		12 1 33	5 29	6 34	3 27	8 15		5 30	6 32	3 23	5 1				5 33	6 29	3 19				
10	S		12 1 16	5 27	6 35	3 52	9 10		5 28	6 33	3 50	5 56				5 31	6 30	3 47				
11	S		12 1 0	5 25	6 36	4 13	9 57		5 26	6 34	4 12	6 42				5 29	6 31	4 12				
12	M		12 0 44	5 24	6 37	4 35	10 38		5 25	6 35	4 35	7 25				5 28	6 32	4 36				
13	T		12 0 29	5 22	6 38	sets	11 21		5 24	6 36	sets	8 7				5 27	6 33	sets				
14	W		12 0 13	5 21	6 39	8 2	morn		5 22	6 37	7 58	8 53				5 25	6 34	7 54				
15	T		11 59 58	5 19	6 40	9 23	7		5 21	6 38	9 18	9 42				5 24	6 35	9 12				
16	F		11 59 43	5 17	6 41	10 43	56		5 20	6 39	10 36	10 35				5 23	6 36	10 29				
17	S		11 59 29	5 16	6 42	11 54	1 47		5 18	6 40	11 47	11 29				5 21	6 37	11 39				
18	S		11 59 16	5 15	6 43	morn	2 43		5 16	6 41	morn	morn				5 20	6 38	morn				
19	M		11 58 2	5 13	6 44	55	3 48		5 15	6 42	49	34				5 19	6 39	41				
20	T		11 58 49	5 12	6 46	1 42	4 54		5 13	6 44	1 36	1 40				5 17	6 40	1 30				
21	W		11 58 36	5 10	6 47	2 18	6 0		5 11	6 45	2 13	2 46				5 15	6 41	2 8				
22	T		11 58 24	5 8	6 48	2 45	7 3		5 10	6 46	2 42	3 49				5 14	6 42	2 38				
23	F		11 58 12	5 6	6 49	3 9	8 0		5 9	6 47	3 7	4 46				5 13	6 43	3 5				
24	S		11 58 1	5 4	6 51	3 30	8 51		5 7	6 48	3 29	5 37				5 11	6 44	3 29				
25	S		11 57 50	5 3	6 52	3 48	9 35		5 6	6 49	3 48	6 21				5 10	6 45	3 49				
26	M		11 57 39	5 2	6 53	4 7	10 17		5 5	6 50	4 9	7 3				5 9	6 46	4 11				
27	T		11 57 30	5 1	6 54	rises	10 56		5 3	6 51	rises	7 42				5 7	6 47	rises				
28	W		11 57 20	4 59	6 56	7 57	11 30		5 2	6 52	7 52	8 16				5 6	6 48	7 40				
29	T		11 57 11	4 57	6 57	9 0	ev. 14		5 1	6 53	8 54	9 0				5 4	6 49	3 48				
30	F		11 57 3	4 56	6 58	10 3	54		5 0	6 54	9 56	9 40				5 3	6 50	9 49				

## Hints for April.

Repair fences, laying up fallen rails, nailing loose boards, and rebuilding tumbling walls.

Clear, pick, roll and plaster meadows—clearing off rubbish and stones, and thus save a week's work at the grindstone at mowing time.

Prepare ground for crops—draw out manure, harrow it well into the soil, then plow it under—thorough intermixture in this way will render it of double value.

Ground for ruta bagas should be early

in good order, and occasionally stirred to destroy all weeds before the crop is sown.

Sow barley and oats. Pull up red root, cockle, and other weeds, from wheat. Let all the manure be applied to corn, potatoes, ruta bagas, carrots, field beets, and parsnips. Allot a portion of land for sowing corn for fodder. Avoid hasty and superficial plowing, but cut straight, deep, and narrow furrows. See that working animals are regularly and well fed and watered, and kept in good condition.



## MOON'S PHASES.

		Boston.		N. York.		Baltimore		Pittsbu'gh		Cincinnati	
	D	H	M	H	M	H	M	H	M	H	M
LAST QUARTER, .....	6	1	56 m	1	44 m	1	34 m	1	21 m	1	3 m
NEW MOON, .....	13	3	4 m	2	52 m	2	42 m	2	29 m	2	11 m
FIRST QUARTER, .....	19	5	36 e	5	24 e	5	14 e	5	1 e	4	43 e
FULL MOON, .....	27	1	21 e	1	9 e	0	59 e	0	46 e	0	28 e

DAY OF MONTH.	DAY OF WEEK.	CALENDAR					CALENDAR					CALENDAR				
		For Boston, N. England, New-York State, Michigan, Wiscon., Iowa and Oregon.					For N. York City, Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.					For Washington, Mary'ld, Virg'a, Kent'y, Miss'ri, and California.				
		Sun at the Noon mark.	SUN rises	SUN sets.	MOON rises.	H. W. Bost.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises	SUN sets.	MOON rises			
		Morning.	H M S	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M
1	S		11 56 55	4 54	6 59	10 59	1 36	4 59	6 55	10 52	10 22	5 2	6 52	10 44		
2	S		11 56 48	4 53	7 0	11 48	2 20	4 58	6 56	11 41	11 6	5 1	6 53	11 34		
3	M		11 56 31	4 51	7 1	morn	3 10	4 57	6 57	morn	11 56	5 0	6 54	morn		
4	T		11 56 35	4 50	7 2	28	4 1	4 56	6 58	22	ev. 47	4 59	6 55	16		
5	W		11 56 29	4 49	7 3	1 3	4 53	4 55	6 59	58	1 39	4 58	6 56	52		
6	T		11 56 24	4 48	7 4	1 30	5 48	4 54	7 0	1 26	2 34	4 57	6 56	1 22		
7	F		11 56 20	4 47	7 5	1 54	6 40	4 53	7 1	1 51	3 26	4 56	6 57	1 48		
8	S		11 56 16	4 46	7 6	2 15	7 35	4 52	7 2	2 13	4 21	4 55	6 58	2 12		
9	S		11 56 13	4 45	7 7	2 36	8 25	4 51	7 3	2 36	5 11	4 54	6 59	2 35		
10	M		11 56 10	4 44	7 8	2 58	9 18	4 50	7 4	2 59	6 4	4 53	7 0	3 0		
11	T		11 56 8	4 43	7 9	3 21	10 8	4 49	7 5	3 23	6 54	4 52	7 1	3 26		
12	W		11 56 6	4 42	7 10	sets	10 56	4 48	7 6	sets	7 42	4 51	7 2	sets		
13	T		11 56 5	4 41	7 11	8 17	11 48	4 47	7 7	8 11	8 34	4 50	7 3	8 5		
14	F		11 56 5	4 40	7 12	9 36	morn	4 45	7 8	9 28	9 32	4 49	7 4	9 21		
15	S		11 56 5	4 39	7 13	10 44	46	4 44	7 9	10 37	10 27	4 48	7 5	10 29		
16	S		11 56 6	4 38	7 14	11 38	1 41	4 43	7 10	11 31	11 24	4 47	7 6	11 25		
17	M		11 56 7	4 37	7 15	morn	2 38	4 42	7 11	morn	morn	4 46	7 7	morn		
18	T		11 56 9	4 36	7 16	18	3 39	4 41	7 12	13	25	4 45	7 7	7		
19	W		11 56 12	4 35	7 17	49	4 38	4 40	7 13	45	1 24	4 44	7 8	41		
20	T		11 56 15	4 35	7 18	1 13	5 34	4 39	7 14	1 11	2 20	4 44	7 9	1 8		
21	F		11 56 18	4 34	7 19	1 35	6 29	4 38	7 15	1 34	3 15	4 43	7 10	1 33		
22	S		11 56 22	4 33	7 20	1 54	7 21	4 37	7 16	1 54	4 7	4 42	7 10	1 54		
23	S		11 56 27	4 32	7 21	2 14	8 10	4 36	7 17	2 16	4 56	4 42	7 11	2 17		
24	M		11 56 32	4 31	7 22	2 35	8 58	4 35	7 18	2 37	5 44	4 41	7 12	2 40		
25	T		11 56 37	4 30	7 23	2 56	9 43	4 35	7 19	3 0	6 29	4 40	7 13	3 4		
26	W		11 56 43	4 29	7 24	4 23	10 27	4 34	7 20	4 28	7 13	4 40	7 14	4 33		
27	T		11 56 50	4 28	7 25	rises	11 5	4 33	7 21	rises	7 51	4 39	7 14	rises		
28	F		11 56 56	4 28	7 26	8 53	11 49	4 33	7 22	8 46	8 35	4 38	7 15	8 38		
29	S		11 57 4	4 27	7 27	9 45	ev. 36	4 32	7 23	9 38	9 22	4 38	7 16	9 38		
30	S		11 57 12	4 26	7 28	10 26	1 19	4 31	7 24	10 20	10 5	4 37	7 16	10 13		
31	M		11 57 20	4 26	7 28	11 2	1 59	4 31	7 25	10 57	10 45	4 37	7 17	10 51		

## Hints for May.

Make vigorous preparation to put in crops. Let them be planted in the best manner—an additional half day in doing work well, may secure an additional wagon-load of products. Thorough work is economy.

Secure corn from crows by tar and plaster—or by long, stretched cords;—or by placing a few empty barrels over the field, which crows suspect and shun.

Plant corn early—more is lost from late

than early planting. Plant in straight rows, to admit of easy, clean, and neat cultivation. Plant double seed, and thin out evenly, and avoid the loss of a third of the crop by missing and uneven hills.

Plant field beets, carrots, and other root crops, in rich, mellow, clean soil—and save three-quarters the labor of hoeing, by hoeing when the weeds are not an inch high, and before they consume the riches of the soil.

## MOON'S PHASES.

		Boston.	N. York.	Baltimore	Pittsbu'gh	Cincinnati
	D	H M	H M	H M	H M	H M
LAST QUARTER, .....	4	3 37 e	3 25 e	3 15 e	3 2 e	2 44 e
NEW MOON, .....	11	10 2 m	9 50 m	9 40 m	3 27 m	3 9 m
FIRST QUARTER, .....	18	3 30 e	3 18 m	3 8 m	2 55 m	2 37 m
FULL MOON, .....	26	4 29 m	4 17 m	4 7 m	3 54 m	3 36 m

DAY OF MONTH.	DAY OF WEEK.	CALENDAR				CALENDAR				CALENDAR			
		Sun at the Noon mark.				For Boston, N. England, New-York State, Michigan, Wisconsin, Iowa and Oregon.				For N. York City, Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.			
		Morning.	SUN rises	SUN sets.	MOON rises	H. W. Bost.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises	SUN sets.	MOON rises.
		H M S	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M
1	T	11 57 29	4 25 7	29	11 31	2 44	4 31	7 24	11 26	11 30	4 36	7 18	11 22
2	W	11 57 38	4 24 7	30	11 57	3 30	4 30	7 25	11 53	ev. 16	4 36	7 19	11 50
3	T	11 57 47	4 24 7	30	morn	4 16	4 30	7 25	morn	1 2	4 35	7 19	morn
4	F	11 57 57	4 23 7	31	17	5 5	4 29	7 26	15	1 51	4 35	7 20	13
5	S	11 58 8	4 23 7	32	37	5 54	4 29	7 27	36	2 40	4 35	7 20	36
6	S	11 58 18	4 23 7	33	58	6 50	1 28	7 27	59	3 36	4 34	7 21	1 0
7	M	11 58 29	4 22 7	33	1 20	7 44	1 28	7 28	1 22	4 30	4 34	7 21	1 24
8	T	11 58 41	4 22 7	34	1 44	8 44	1 28	7 28	1 47	5 30	4 34	7 22	1 51
9	W	11 58 52	4 22 7	35	2 15	9 44	1 28	7 29	2 20	6 30	4 34	7 22	2 25
10	T	11 59 4	4 22 7	35	sets	10 42	1 28	7 29	sets	7 28	4 34	7 23	sets
11	F	11 59 16	4 22 7	36	8 21	11 38	1 28	7 30	8 14	8 24	4 34	7 24	8 6
12	S	11 59 28	4 22 7	37	9 24	morn	1 28	7 30	9 17	9 26	4 34	7 25	9 10
13	S	11 59 41	4 22 7	37	10 12	40	1 28	7 31	10 6	10 21	4 34	7 25	10 1
14	M	11 59 53	4 22 7	38	10 47	1 35	1 28	7 31	10 43	11 10	4 34	7 26	10 38
15	T	12 0 6	4 22 7	38	11 14	2 24	1 28	7 32	11 13	morn	4 33	7 27	11 10
16	W	12 0 19	4 22 7	38	11 39	3 17	1 28	7 32	11 38	3	4 33	7 27	11 36
17	T	12 0 32	4 22 7	39	11 58	4 7	1 28	7 33	11 58	53	4 33	7 28	11 58
18	F	12 0 45	4 22 7	39	morn	4 56	1 28	7 33	morn	1 42	4 33	7 28	morn
19	S	12 0 58	4 23 7	39	18	5 46	1 29	7 34	19	2 32	4 33	7 28	20
20	S	12 1 11	4 23 7	39	40	6 36	1 29	7 34	42	3 22	4 34	7 28	45
21	M	12 1 24	4 23 7	39	1 0	7 29	1 29	7 34	1 4	4 15	4 34	7 28	1 8
22	T	12 1 37	4 23 7	40	1 17	8 18	1 29	7 34	1 23	5 4	4 34	7 29	1 30
23	W	12 1 50	4 23 7	40	1 56	9 11	1 29	7 35	2 2	5 57	4 34	7 29	2 8
24	T	12 2 2	4 24 7	40	2 32	10 1	1 30	7 35	2 39	6 47	4 35	7 29	2 46
25	F	12 2 15	4 24 7	40	rises	10 48	1 30	7 35	rises	7 34	4 35	7 29	rises
26	S	12 2 28	4 24 7	40	8 27	11 28	1 30	7 35	8 20	8 14	4 35	7 29	8 13
27	S	12 2 40	4 25 7	40	9 4	ev. 17	1 30	7 35	8 58	9 3	4 35	7 29	8 52
28	M	12 2 52	4 25 7	40	9 35	59	1 31	7 35	9 30	9 45	4 36	7 29	9 25
29	T	12 3 4	4 25 7	40	10 1	1 36	1 31	7 35	9 57	10 22	4 36	7 29	9 53
30	W	12 3 16	4 25 7	40	10 21	2 16	1 31	7 35	10 19	11 2	4 36	7 29	10 17

## Hints for June.

The crops for the season being now mostly planted, see that weeds do not devour them. "A stitch in time saves nine," whether applied to pantaloons or to potatoes. Would you destroy the enemy that snatches the bread from your children's mouths? then destroy cockle, chess, mustard, and red-root, for these weeds are stealing the wheat—go over the field several times, and let none escape. Plow in Canada thistles, deeply and thoroughly; continue it once a month through the sum-

mer, and by mid-autumn they will be killed, and the land fine for wheat.

Sow corn for fodder,—strewing it thickly in furrows plowed two to three feet apart, and cover it by cross-harrowing the furrows. Five or six tons of fine, rich, palatable fodder per acre, will be your pay, and the land far less exhausted than by grain crops.

Sow ruta bagas from the first to the middle of the month, in clean, rich, mellow soil.



## MOON'S PHASES.

		Boston.	N. York.	Baltimore	Pittsburgh	Cincinnati
	D	H M	H M	H M	H M	H M
LAST QUARTER,.....	4	2 0 m	1 48 m	1 38 m	1 25 m	1 7 m
NEW MOON,.....	10	4 41 e	4 29 e	4 19 e	4 6 e	3 48 e
FIRST QUARTER,.....	17	3 55 e	3 43 e	3 33 e	3 20 e	3 2 e
FULL MOON,.....	25	7 19 e	7 7 e	6 57 e	6 44 e	6 26 e

DAY OF MONTH.	DAY OF WEEK.	CALENDAR												CALENDAR												CALENDAR													
		Sun at the Noon mark.		For Boston, N. England, New-York State, Michigan, Wiscon., Iowa and Oregon.												For N. York City, Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.												For Washington, Mary'ld, Virga, Kent'y, Miss'ri, and California.											
				Evening.		SUN rises		SUN sets.		MOON rises.		H. W. Bost.		SUN rises		SUN sets.		MOON rises.		H. W. N. Y.		SUN rises		SUN sets.		MOON rises													
		H	M	S	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M											
1	T	12	3	28	4	26	7	40	10	43	2	56	4	31	7	35	10	42	11	42	4	37	7	29	10	41													
2	F	12	3	39	4	26	7	40	11	1	3	39	4	32	7	35	11	1	ev. 25	4	37	7	29	11	1														
3	S	12	3	51	4	27	7	40	11	21	4	22	4	32	7	35	11	23	1	8	4	38	7	29	11	24													
4	S	12	4	2	4	27	7	39	11	46	5	13	4	33	7	34	11	47	1	59	4	38	7	28	11	50													
5	M	12	4	12	4	28	7	39	morn		6	11	4	33	7	34	morn		2	57	4	39	7	28	morn														
6	T	12	4	23	4	29	7	39	11		7	11	4	34	7	34	15		3	57	4	40	7	28	20														
7	W	12	4	32	4	29	7	39	45		8	19	4	34	7	34	51		5	5	4	40	7	28	56														
8	T	12	4	42	4	30	7	38	1	32	9	30	4	35	7	33	1	39	6	16	4	41	7	27	1	46													
9	F	12	4	51	4	31	7	38	2	32	10	35	4	36	7	33	2	39	7	21	4	42	7	27	2	47													
10	S	12	5	0	4	31	7	38	sets		11	30	4	37	7	33	sets		8	16	4	42	7	27	sets														
11	S	12	5	8	4	32	7	37	8	42	morn		4	38	7	32	8	37	9	15	4	43	7	26	8	31													
12	M	12	5	16	4	33	7	37	9	13	29		4	39	7	32	9	9	10	3	4	44	7	26	9	6													
13	T	12	5	24	4	34	7	36	9	40	1	17	4	39	7	31	9	38	10	46	4	45	7	25	9	36													
14	W	12	5	31	4	35	7	36	10	0	2	0	4	40	7	31	10	0	11	29	4	45	7	25	9	59													
15	T	12	5	37	4	36	7	35	10	22	2	43	4	41	7	30	10	22	morn		4	46	7	24	10	23													
16	F	12	5	43	4	37	7	34	10	42	3	28	4	42	7	29	10	44	14		4	47	7	24	10	46													
17	S	12	5	48	4	38	7	34	11	2	4	13	4	43	7	29	11	5	59	4	48	7	23	11	9														
18	S	12	5	53	4	39	7	33	11	27	5	1	4	43	7	28	11	31	1	47	4	49	7	23	11	36													
19	M	12	5	58	4	39	7	32	11	56	5	53	4	44	7	27	morn		2	39	4	50	7	22	morn														
20	T	12	6	1	4	40	7	32	morn		6	51	4	45	7	27	2		3	37	4	50	7	22	8														
21	W	12	6	5	4	41	7	31	31		7	45	4	46	7	26	37		4	31	4	51	7	21	44														
22	T	12	6	7	4	42	7	30	1	12	8	44	4	47	7	25	1	20	5	30	4	52	7	20	1	27													
23	F	12	6	9	4	43	7	29	2	4	9	39	4	48	7	24	2	11	6	25	4	53	7	19	2	19													
24	S	12	6	11	4	44	7	28	3	2	10	28	4	49	7	23	3	8	7	14	4	53	7	18	3	15													
25	S	12	6	12	4	45	7	27	rises		11	10	4	49	7	22	rises		7	56	4	54	7	17	rises														
26	M	12	6	12	4	46	7	26	8	5	11	53	4	50	7	22	8	0	8	39	4	55	7	16	7	56													
27	T	12	6	11	4	47	7	25	8	27	ev. 35		4	51	7	21	8	24	9	21	4	56	7	15	8	21													
28	W	12	6	11	4	48	7	24	8	48	1	10	4	52	7	20	8	46	9	56	4	56	7	14	8	44													
29	T	12	6	9	4	49	7	23	9	7	1	46	4	53	7	19	9	7	10	32	4	57	7	14	9	7													
30	F	12	6	7	4	50	7	22	9	27	2	23	4	54	7	18	9	28	11	9	4	58	7	14	9	29													
31	S	12	6	4	4	51	7	21	9	49	3	4	4	55	7	17	9	51	11	50	4	59	7	13	9	54													

## Hints for July.

Look well to weeds. Would you avoid an invading army of robbers? Then destroy weeds on their first approach; for they devour more of the riches of the soil and of the weight of the crop, every year in the country, than would feed the army of Napoleon. Would you allow a herd of strange cattle to range your fields a single night? Then why permit an army of weeds to devour their strength a whole season, and then bequeath their pernicious

deeds, in the shape of seeds, to a race of successors?

Keep crops well cultivated, passing between the rows often with the horse, to keep the soil well stirred—where land is not stony, let hoes be kept sharp by grinding, and they will cut like magic.

Keep weeds and grass well cleared away from young fruit trees, and the soil clean and mellow. Neither a young tree, nor a hill of corn, can thrive in a weed bed.

MOON'S PHASES. (9th.)*		Boston.		N. York.	Baltimore	Pittsbu'gh	Cincinnati
	D	H M		H M	H M	H M	H M
LAST QUARTER,.....	2	9 37 m		9 25 n	9 15 m	9 2 m	8 44 m
NEW MOON,.....	8	*0 10 m		11 58 e	11 48 e	11 35 e	11 17 e
FIRST QUARTER,.....	16	6 58 m		6 46 n	6 36 m	6 23 m	6 5 m
FULL MOON,.....	24	9 28 m		9 16 n	9 6 m	8 53 m	8 35 m
LAST QUARTER,.....	31	3 33 e		3 21 e	3 11 e	2 58 e	2 40 e

DAY OF MONTH.	DAY OF WEEK.	CALENDAR												CALENDAR												CALENDAR																							
		Sun at the Noon mark.												For Boston, N. England, New-York State, Michigan, Wiscon., Iowa and Oregon.												For N. York City, Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.												For Washington, Mary'ld, Virg'a, Kent'y, Miss'ri, and California.											
		Evening.			SUN rises	SUN sets.	MOON rises.	H. W. Bost.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises	SUN sets.	MOON rises.																														
H	M	S	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M																							
1	S	12	6	1	4	52	7	20	10	12	3	50	4	56	7	16	10	16	ev.	36	5	0	7	12	10	20																							
2	M	12	5	57	4	53	7	19	10	44	4	43	4	57	7	15	10	48	1	29	5	1	7	11	10	54																							
3	T	12	5	53	4	54	7	18	11	23	5	46	4	58	7	14	11	29	2	32	5	2	7	10	11	35																							
4	W	12	5	48	4	55	7	16	morn	6	57	4	59	7	13	morn	3	43	5	2	7	9	morn																										
5	T	12	5	42	4	56	7	15	15	8	11	5	0	7	12	22	4	57	5	3	7	8		30																									
6	F	12	5	36	4	57	7	14	1	20	9	24	5	1	7	11	1	27	6	10	5	4	7	7	1	35																							
7	S	12	5	29	4	58	7	13	2	36	10	27	5	2	7	10	2	42	7	13	5	5	7	6	2	49																							
8	S	12	5	22	4	59	7	11	sets	11	19	5	3	7	9	sets	8	5	5	6	7	4	sets																										
9	M	12	5	14	5	0	7	10	7	40	morn	5	4	7	8	7	37	8	54	5	7	7	3	7	34																								
10	T	12	5	5	5	1	7	9	8	2	8	5	5	7	6	8	0	9	36	5	8	7	1	7	59																								
11	W	12	4	56	5	2	7	8	8	23	50	5	6	7	5	8	23	10	19	5	9	7	0	8	24																								
12	T	12	4	47	5	3	7	7	8	43	1	33	5	7	7	3	8	45	10	53	5	10	6	59	8	46																							
13	F	12	4	36	5	4	7	5	9	5	2	7	5	8	7	2	9	8	11	35	5	11	6	58	9	11																							
14	S	12	4	26	5	5	7	4	9	30	2	49	5	9	7	0	9	34	morn	5	12	6	57	9	38																								
15	S	12	4	14	5	6	7	2	9	56	3	34	5	10	6	59	10	1	20	5	13	6	55	10	6																								
16	M	12	4	2	5	7	7	1	10	30	4	22	5	11	6	58	10	36	1	8	5	14	6	54	10	42																							
17	T	12	3	50	5	8	7	0	11	10	5	15	5	12	6	57	11	16	2	1	5	15	6	53	11	24																							
18	W	12	3	37	5	9	6	58	11	56	6	16	5	13	6	55	morn	3	2	5	16	6	52	morn																									
19	T	12	3	24	5	10	6	56	morn	7	17	5	14	6	54	3	4	3	5	17	6	50		11																									
20	F	12	3	10	5	11	6	55	53	8	16	5	15	6	53	1	0	5	2	5	18	6	49	1	7																								
21	S	12	2	55	5	12	6	54	1	54	9	14	5	16	6	51	2	0	6	0	5	19	6	48	2	6																							
22	S	12	2	40	5	14	6	52	3	0	10	4	5	17	6	50	3	5	6	50	5	20	6	46	3	10																							
23	M	12	2	25	5	15	6	51	rises	10	47	5	18	6	49	rises	7	33	5	21	6	45	rises																										
24	T	12	2	9	5	16	6	49	6	53	11	23	5	19	6	47	6	51	8	9	5	21	6	43	6	49																							
25	W	12	1	53	5	17	6	48	7	13	ev.	2	5	20	6	45	7	13	8	48	5	22	6	42	7	12																							
26	T	12	1	36	5	18	6	46	7	34	40	5	21	6	43	7	34	9	26	5	23	6	41	7	35																								
27	F	12	1	19	5	19	6	44	7	54	1	17	5	22	6	41	7	56	10	3	5	24	6	39	7	58																							
28	S	12	1	2	5	20	6	42	8	17	1	54	5	23	6	40	8	21	10	40	5	25	6	38	8	24																							
29	S	12	0	44	5	21	6	41	8	44	2	36	5	24	6	38	8	49	11	22	5	26	6	36	8	54																							
30	M	12	0	26	5	22	6	39	9	22	3	28	5	25	6	36	9	28	ev.	14	5	27	6	34	9	34																							
31	T	12	0	8	5	23	6	37	10	7	4	28	5	26	6	34	10	13	1	14	5	28	6	33	10	21																							

## Hints for August.

Pursue vigorously, and finish haying and harvesting. Cut wheat a week or two before dead ripe, and the grain will weigh more, give less bran, and not shell in harvesting; and the straw be worth double. Secure the gleanings by a horse-rake. If it rains, harrow wheat and barley stubble to start the weeds, which plow under as a green crop. Take great pains to have clean seed-wheat, clearing out all foul

stuff, and especially the seeds of that deceitful, invisibly insinuating, rapidly multiplying weed, chess. Some farmers, by great pains every year, have at last totally expelled it from their farms.

Cut under-drains through wet ground. Drain muck swamps, and get out and draw swamp muck to mix with barn-yard manure. Still continue to destroy weeds. Plant strawberry beds.



MOON'S PHASES. (*14th)		Boston.	N. York.	Baltimore	Pittsbu'gh	Cincinnati
	D	H M	H M	H M	H M	H M
NEW MOON,.....	7	9 31 m	9 19 m	9 9 m	8 56 m	8 38 m
FIRST QUARTER,.....	15	0 32 m	0 20 m	0 10 m	*11 57 e	*11 39 e
FULL MOON,.....	22	10 37 e	10 25 e	10 15 e	10 2 e	9 44 e
LAST QUARTER, .....	29	9 8 e	8 56 e	8 46 e	8 33 e	8 15 e

DAY OF MONTH.	DAY OF WEEK.	CALENDAR								CALENDAR								CALENDAR								
		Sun at the Noon mark.		For Boston, N. England, New-York State, Michigan, Wiscon., Iowa and Oregon.						For N. York City, Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.						For Washington, Mary'd, Virg'a, Kent'y, Miss'r'i, and California.										
				Morning.		SUN rises	SUN sets.	MOON rises	H. W. Bost.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises	SUN sets.	MOON rises.										
		H	M	S	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M
1	W	11	59	49	5	24	6	36	11	7	5	38	5	27	6	33	11	14	2	24	5	29	6	31	11	22
2	T	11	59	30	5	26	6	35	morn	6	55	5	28	6	32	morn	3	41	5	30	6	30	morn			
3	F	11	59	11	5	27	6	33		18	8	8	5	29	6	30		24	4	54	5	31	6	28		31
4	S	11	58	52	5	28	6	31	1	34	9	15	5	30	6	29	1	40	6	1	5	32	6	27	1	46
5	S	11	58	32	5	29	6	30	2	55	10	11	5	31	6	27	2	59	6	57	5	33	6	25	3	3
6	M	11	58	12	5	30	6	28	4	13	10	56	5	32	6	26	4	15	7	42	5	34	6	24	4	18
7	T	11	57	52	5	31	6	26	sets	11	37	5	33	6	24	sets	8	23	5	35	6	23	sets			
8	W	11	57	32	5	32	6	25	6	48	morn	5	34	6	23	6	48	9	5	5	35	6	21	6	49	
9	T	11	57	12	5	33	6	23	7	7		19	5	35	6	21	7	10	9	44	5	36	6	20	7	12
10	F	11	56	51	5	34	6	21	7	29		58	5	36	6	19	7	33	10	21	5	37	6	18	7	36
11	S	11	56	30	5	35	6	19	7	56	1	35	5	36	6	18	8	1	11	1	5	38	6	17	8	6
12	S	11	56	9	5	36	6	17	8	27	2	15	5	37	6	16	8	33	11	46	5	39	6	15	8	39
13	M	11	55	48	5	37	6	16	9	4	3	0	5	38	6	14	9	11	morn	5	40	6	13	9	18	
14	T	11	55	27	5	38	6	14	9	49	3	50	5	39	6	12	9	56		36	5	40	6	12	10	4
15	W	11	55	6	5	39	6	12	10	41	4	45	5	40	6	10	10	48	1	31	5	41	6	10	10	56
16	T	11	54	45	5	40	6	11	11	41	5	46	5	41	6	8	11	47	2	32	5	42	6	9	11	54
17	F	11	54	24	5	41	6	9	morn	6	47	5	42	6	7	morn	3	33	5	43	6	7	morn			
18	S	11	54	3	5	42	6	7		45	7	43	5	43	6	5		50	4	30	5	44	6	5		56
19	S	11	53	42	5	43	6	5	1	50	8	41	5	44	6	4	1	55	5	27	5	44	6	4	1	59
20	M	11	53	21	5	44	6	4	2	58	9	30	5	45	6	2	3	1	6	16	5	45	6	2	3	4
21	T	11	53	0	5	45	6	2	4	3	10	13	5	46	6	1	4	5	6	59	5	46	6	1	4	7
22	W	11	52	39	5	46	6	0	rises	10	54	5	47	5	59	rises	7	40	5	47	5	59	rises			
23	T	11	52	18	5	47	5	58	5	59	11	27	5	48	5	57	6	0	8	13	5	48	5	57	6	2
24	F	11	51	57	5	48	5	56	6	21	ev.	9	5	49	5	55	6	24	8	55	5	49	5	55	6	27
25	S	11	51	36	5	49	5	54	6	48		50	5	50	5	53	6	52	9	36	5	50	5	53	6	57
26	S	11	51	16	5	50	5	52	7	22	1	34	5	51	5	52	7	27	10	20	5	51	5	52	7	33
27	M	11	50	55	5	51	5	50	8	6	2	22	5	52	5	50	8	12	11	8	5	52	5	51	8	19
28	T	11	50	36	5	53	5	49	9	0	3	20	5	53	5	49	9	7	ev.	6	5	53	5	49	9	15
29	W	11	50	16	5	54	5	46	10	8	4	26	5	54	5	47	10	15	1	12	5	54	5	47	10	22
30	T	11	49	56	5	55	5	45	11	18	5	37	5	55	5	45	11	24	2	23	5	55	5	45	11	30

## Hints for September.

Put land in the best condition before sowing wheat—manure will do well and much improve the crop, if it is well pulverized and thoroughly intermixed with the soil, by repeated harrowings—take great pains to sow only the cleanest seed—just before sowing wet with brine and dust with slacked lime, to destroy smut—never sow after wheat, but adopt a good rotation—sow early, if Hessian fly is much feared.

Commence fattening hogs—feed them

REGULARLY, and not let them squeal their flesh away by waiting for their stated meals—if apples are plenty, they will fatten finely on the fallen fruit for two months—in feeding corn, let it be ground, and boiled with water, and its value will be nearly tripled—if it cannot be boiled, ferment it for a few days, which will improve it.

Corn sown late for fodder should be timely secured—mow it, and let it dry by sweating in small cocks.

## MOON'S PHASES.

		Boston.	N. York.	Baltimore	Pittsbu'gh	Cincinnati
	D	H M	H M	H M	H M	H M
NEW MOON,.....	6	9 24 e	9 12 e	9 2 e	8 49 e	8 31 e
FIRST QUARTER,.....	14	7 58 e	7 46 e	7 36 e	7 23 e	7 5 e
FULL MOON,.....	22	10 35 m	10 23 m	10 13 m	9 49 m	9 31 m
LAST QUARTER,.....	29	3 50 m	3 38 m	3 28 m	3 15 m	2 57 m

DAY OF MONTH.	DAY OF WEEK.	Sun at the Noon mark.	CALENDAR				CALENDAR				CALENDAR			
			For Boston, N. England. New-York State, Michigan, Wiscon., Iowa and Oregon.				For N. York City, Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.				For Washington, Mary'ld, Virg'a, Kent'y, Miss'ri, and California.			
			SUN rises	SUN sets.	MOON rises.	H. W. Bost.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises	SUN sets.	MOON rises.	
		Morning.	H M S	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M	H M
1	F		11 49 37	5 56	5 43	morn	6 48	5 56	5 43	morn	3 34	5 56	5 44	morn
2	S		11 49 18	5 57	5 42	39	7 54	5 57	5 42	44	4 40	5 57	5 42	49
3	S		11 49 0	5 58	5 40	1 56	8 53	5 58	5 41	1 59	5 39	5 58	5 41	2 2
4	M		11 48 42	5 59	5 39	3 9	9 44	5 59	5 39	3 11	6 30	5 59	5 39	3 13
5	T		11 48 24	6 1	5 38	4 20	10 28	6 0	5 37	4 21	7 14	6 0	5 38	4 22
6	W		11 48 6	6 2	5 36	sets	11 5	6 1	5 36	sets	7 51	6 1	5 37	sets
7	T		11 47 49	6 3	5 34	5 32	11 45	6 2	5 34	5 35	8 31	6 2	5 35	5 38
8	F		11 47 33	6 4	5 33	5 56	morn	6 3	5 33	6 0	9 12	6 3	5 34	6 4
9	S		11 47 17	6 5	5 31	6 25	26	6 4	5 31	6 30	9 53	6 4	5 32	6 36
10	S		11 47 1	6 6	5 29	7 0	1 7	6 5	5 29	7 7	10 35	6 5	5 31	7 13
11	M		11 46 46	6 8	5 28	7 42	1 49	6 6	5 28	7 49	11 18	6 6	5 30	7 56
12	T		11 46 31	6 9	5 26	8 31	2 32	6 7	5 26	8 38	morn	6 7	5 29	8 46
13	W		11 46 16	6 10	5 24	9 28	3 23	6 8	5 25	9 35	9 6	6 8	5 27	9 42
14	T		11 46 3	6 11	5 22	10 29	4 16	6 9	5 23	10 35	1 2	6 9	5 25	10 41
15	F		11 45 49	6 12	5 20	11 34	5 12	6 10	5 22	11 39	1 58	9 10	5 24	11 44
16	S		11 45 37	6 13	5 19	morn	6 9	6 11	5 20	morn	2 55	6 11	5 22	morn
17	S		11 45 24	6 14	5 17	40	7 4	6 12	5 19	44	3 50	6 12	5 20	48
18	M		11 45 13	6 15	5 16	1 36	7 56	6 13	5 17	1 38	4 42	6 13	5 19	1 41
19	T		11 45 2	6 17	5 14	2 52	8 47	6 14	5 16	2 53	5 33	6 14	5 17	2 55
20	W		11 44 51	6 18	5 13	3 59	9 33	6 15	5 15	3 59	6 19	9 15	5 16	3 59
21	T		11 44 42	6 19	5 11	rises	10 17	6 16	5 13	rises	7 3	6 16	5 15	rises
22	F		11 44 33	6 21	5 10	4 49	10 59	6 18	5 12	4 52	7 45	6 17	5 14	4 56
23	S		11 44 24	6 22	5 8	5 21	11 42	6 19	5 10	5 26	8 28	6 18	5 13	5 31
24	S		11 44 16	6 23	5 7	6 1	ev. 33	6 20	5 8	6 7	9 19	6 19	5 12	6 14
25	M		11 44 9	6 24	5 5	6 55	1 25	6 21	5 7	7 2	10 11	6 20	5 10	7 9
26	T		11 44 3	6 25	5 4	7 59	2 18	6 22	5 5	8 6	11 4	6 21	5 9	8 13
27	W		11 43 58	6 27	5 2	9 13	3 19	6 24	5 4	9 20	ev. 5	6 22	5 7	9 26
28	T		11 43 53	6 28	5 1	10 29	4 24	6 25	5 3	10 34	1 10	6 23	5 5	10 39
29	F		11 43 49	6 29	5 0	11 45	5 28	6 26	5 2	11 49	2 14	6 24	5 4	11 53
30	S		11 43 44	6 31	4 58	morn	6 29	6 27	5 0	morn	3 15	6 25	5 3	morn
31	S		11 43 44	6 32	4 57	1 0	7 29	6 28	4 59	1 2	4 15	6 26	5 2	1 4

## Hints for October.

Harvest autumn crops—husk corn—dig potatoes—harvest ruta bagas and field beets by the end of the month.

Dig potatoes when the soil is dry and not muddy, and they will be much cleaner, and hence less liable to rot.

Potatoes should be kept as cool as possible, well ventilated, and affected ones should be carefully picked out.

Incomparably the best way to keep potatoes, is to bury them first with a foot of

packed straw, and then three inches of earth.

All roots buried in heaps, must be well ventilated by wisps of straw set in holes in the top of each heap.

Winter apples intended for selling or keeping, must be carefully picked by hand, using suitable ladders, and not bruising trees.

All fattening animals should be fed with regularity, enough but not too much.



## MOON'S PHASES.

		Boston.	N. York.	Baltimore	Pittsbu'gh	Cincinnati
	D	H M	H M	H M	H M	H M
NEW MOON,.....	5	0 5 e	11 53 m	11 43 m	11 30 m	11 12 m
FIRST QUARTER,.....	13	3 58 e	3 46 e	3 36 e	3 23 e	3 5 e
FULL MOON,.....	20	9 41 e	9 29 e	9 19 e	9 6 e	8 48 e
LAST QUARTER,.....	27	0 51 e	0 39 e	0 29 e	0 16 e	11 58 m

DAY OF MONTH.	DAY OF WEEK.	CALENDAR					CALENDAR					CALENDAR				
		For Boston, N. England, New-York State, Michigan, Wiscon., Iowa and Oregon.					For N. York City, Philadelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.					For Washington, Mary'ld, Virg'a, Kent'y, Miss'ri, and California.				
		Sun at the Noon mark.	SUN rises	SUN sets.	MOON rises	H. W. Bost.	SUN rises	SUN sets.	MOON rises.	H. W. N. Y.	SUN rises	SUN sets.	MOON rises.			
		Morning.	H M S	H M H M	H M H M	H M	H M H M	H M H M	H M H M	H M	H M H M	H M H M	H M			
1	M		11 43 42	6 33 4 55	2 10 8 21		6 29 4 59	2 11 5 7	6 27 5 1	2 11						
2	T		11 43 41	6 34 4 54	3 18 9 9		6 30 4 58	3 18 5 55	6 28 5 0	3 17						
3	W		11 43 41	6 35 4 53	4 25 9 55		6 31 4 57	4 24 6 41	6 29 4 59	4 22						
4	T		11 43 42	6 36 4 52	5 33 10 37		6 32 4 56	5 30 7 23	6 30 4 58	5 27						
5	F		11 43 44	6 37 4 50	sets 11 16		6 33 4 55	sets 8 2	6 31 4 57	sets						
6	S		11 43 47	6 39 4 49	4 58 11 59		6 35 4 53	5 4 8 45	6 32 4 56	5 10						
7	S		11 43 50	6 40 4 48	5 36 morn		6 36 4 52	5 43 9 25	6 33 4 55	5 50						
8	M		11 43 54	6 41 4 47	6 24 39		6 38 4 50	6 31 10 13	6 35 4 54	6 38						
9	T		11 43 59	6 43 4 45	7 19 1 27		6 39 4 49	7 26 10 56	6 36 4 53	7 33						
10	W		11 44 5	6 44 4 44	8 19 2 10		6 40 4 48	8 25 11 43	6 37 4 52	8 31						
11	T		11 44 12	6 45 4 43	9 21 2 57		6 41 4 47	9 27 morn	6 39 4 51	9 32						
12	F		11 44 20	6 47 4 42	10 26 3 46		6 43 4 46	10 30 32	6 40 4 50	10 34						
13	S		11 44 28	6 48 4 41	11 30 4 36		6 44 4 45	11 33 1 22	6 41 4 49	11 36						
14	S		11 44 37	6 49 4 40	morn 5 25		6 45 4 44	morn 2 11	6 42 4 48	morn						
15	M		11 44 47	6 51 4 39	35 6 18		6 47 4 43	36 3 4	6 43 4 47	38						
16	T		11 44 58	6 52 4 38	1 39 7 6		6 48 4 42	1 39 3 52	6 44 4 46	1 40						
17	W		11 45 10	6 53 4 37	2 47 7 59		6 49 4 41	2 46 4 45	6 45 4 46	2 46						
18	T		11 45 22	6 54 4 36	3 56 8 50		6 50 4 40	3 54 5 36	6 46 4 45	3 52						
19	F		11 45 36	6 55 4 36	5 11 9 42		6 51 4 40	5 8 6 28	6 47 4 44	5 4						
20	S		11 45 50	6 56 4 35	rises 10 34		6 52 4 39	rises 7 20	6 48 4 44	rises						
21	S		11 46 5	6 58 4 34	4 41 11 24		6 54 4 38	4 48 8 10	6 49 4 43	4 55						
22	M		11 46 21	6 59 4 33	5 44 ev. 21		6 55 4 38	5 51 9 7	6 50 4 42	5 58						
23	T		11 46 37	7 0 4 33	6 57 1 19		6 56 4 37	7 3 10 5	6 51 4 42	7 10						
24	W		11 46 55	7 1 4 32	8 16 2 13		6 57 4 36	8 21 10 59	6 52 4 41	8 27						
25	T		11 47 13	7 3 4 31	9 35 3 11		6 58 4 36	9 39 11 57	6 53 4 41	9 43						
26	F		11 47 32	7 4 4 31	10 50 4 7		6 59 4 35	10 52 ev. 53	6 54 4 41	10 55						
27	S		11 47 51	7 5 4 30	morn 5 2		7 0 4 34	morn 1 48	6 55 4 41	morn						
28	S		11 48 12	7 6 4 29	1 5 57		7 1 4 34	3 2 43	6 56 4 40	4						
29	M		11 48 33	7 7 4 29	1 9 6 50		7 2 4 33	1 9 3 36	6 57 4 40	1 9						
30	T		11 48 55	7 9 4 29	2 18 7 42		7 4 4 33	2 17 4 28	6 58 4 40	2 15						

## Hints for November.

Finish speedily the harvesting of root crops, if not already done, and see that they are secured from frost.

Collect all tools, as plows, harrows, carts, hoes, &c., and see them kept under shelter.

Transplant hardy fruit and ornamental trees—let them be well staked from the action of the wind.

Throw up a conical bank a foot high for winter, round all young trees, which will secure them perfectly from mice.

Apply manure as a top-dressing wherever needed—it will not now evaporate, but soak into the soil.

Strawberry and asparagus beds should now have a top-dressing of rich manure.

Grafts for next spring may be now cut, and packed in damp moss or sand—grapes pruned and the cuttings preserved.

Grape layers made the past summer, may be removed from the parent vine, and secured by burying.

MOON'S PHASES.	D	Boston.		N. York.		Baltimore		Pittsbu'gh		Cincinnati	
		H	M	H	M	H	M	H	M	H	M
NEW MOON,.....	5	5	26 m	5	14 m	5	4 m	4	51 m	4	33 m
FIRST QUARTER,.....	13	10	44 m	10	32 m	10	22 m	10	9 m	9	51 m
FULL MOON,.....	20	8	23 m	8	11 m	8	1 m	7	48 m	7	30 m
LAST QUARTER,.....	27	0	55 m	0	43 m	0	33 m	0	20 m	0	2 m

DAY OF MONTH.	DAY OF WEEK.	CALENDAR												CALENDAR												CALENDAR											
		For Boston, N. England. New-York State, Mi- chigan, Wiscon., Iowa and Oregon.												For N. York City, Phi- ladelphia, Conn., New Jersey, Penn'a, Ohio, Indiana and Illinois.												For Washington, Mary'ld, Virg'a, Kent'y, Miss'ri, and California.											
		Sun at the Noon mark.			SUN rises		SUN sets.		MOON rises.		H. W. Bost.		SUN rises		SUN sets.		MOON rises.		H. W. N. Y.		SUN rises		SUN sets.		MOON rises												
Morning.																																					
		H	M	S	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M	H	M			
1	W	11	49	17	7	10	4	29	3	24	8	35	7	5	4	34	3	22	5	21	6	59	4	40	3	19											
2	T	11	49	40	7	11	4	29	4	30	9	22	7	6	4	34	4	27	6	8	7	0	4	39	4	22											
3	F	11	50	4	7	12	4	28	5	37	10	10	7	7	4	34	5	32	6	56	7	4	4	39	5	27											
4	S	11	50	28	7	13	4	28	sets		10	54	7	8	4	33	sets		7	40	7	2	4	39	sets												
5	S	11	50	53	7	14	4	28	4	19	11	37	7	9	4	33	4	26	8	23	7	3	4	38	4	33											
6	M	11	51	19	7	15	4	28	5	12	morn		7	10	4	33	5	18	9	10	7	4	4	38	5	26											
7	T	11	51	45	7	16	4	28	6	10		24	7	11	4	33	6	17	9	55	7	5	4	38	6	23											
8	W	11	52	11	7	17	4	28	7	11	1	9	7	12	4	33	7	16	10	35	7	6	4	38	7	22											
9	T	11	52	38	7	18	4	28	8	15	1	49	7	13	4	33	8	19	11	15	7	7	4	38	8	24											
10	F	11	53	6	7	19	4	28	9	19	2	29	7	14	4	33	9	22	11	58	7	8	4	38	9	25											
11	S	11	53	33	7	20	4	28	10	21	3	12	7	15	4	33	10	23	morn		7	9	4	38	10	25											
12	S	11	54	1	7	21	4	28	11	25	3	54	7	15	4	33	11	26	40		7	10	4	39	11	27											
13	M	11	54	30	7	22	4	28	morn		4	40	7	16	4	33	morn		1	26	7	10	4	39	morn												
14	T	11	54	58	7	22	4	28	28		5	26	7	17	4	34	28		2	12	7	11	4	39	28												
15	W	11	55	27	7	23	4	28	1	35	6	19	7	17	4	34	1	34	3	5	7	11	4	39	1	32											
16	T	11	55	57	7	24	4	28	2	47	7	12	7	18	4	34	2	44	3	58	7	12	4	39	2	41											
17	F	11	56	26	7	24	4	29	4	2	8	11	7	18	4	34	3	57	4	57	7	12	4	40	3	53											
18	S	11	56	56	7	25	4	29	5	29	9	14	7	19	4	35	5	24	6	0	7	13	4	40	5	18											
19	S	11	57	25	7	25	4	29	rises		10	16	7	19	4	35	rises		7	2	7	13	4	40	rises												
20	M	11	57	55	7	26	4	30	4	30	11	14	7	20	4	36	4	37	8	0	7	14	4	41	4	44											
21	T	11	58	25	7	26	4	30	5	46	ev.		14	7	20	4	36	5	52	9	0	7	14	4	41	5	58										
22	W	11	58	55	7	27	4	31	7	12	1	10	7	21	4	37	7	16	9	56	7	15	4	42	7	21											
23	T	11	59	25	7	27	4	31	8	33	1	59	7	21	4	37	8	36	10	45	7	15	4	42	8	39											
24	F	11	59	55	7	28	4	32	9	49	2	49	7	22	4	38	9	51	11	35	7	16	4	43	9	53											
25	S	12	0	25	7	28	4	32	11	1	3	38	7	22	4	38	11	1	ev.		24	7	16	4	43	11	1										
26	S	12	0	55	7	29	4	33	morn		4	27	7	23	4	39	morn		1	13	7	17	4	44	morn												
27	M	12	1	24	7	29	4	34	10		5	16	7	23	4	39	9		2	2	7	17	4	45	8												
28	T	12	1	54	7	29	4	34	1	17	6	9	7	24	4	40	1	15	2	55	7	18	4	45	1	12											
29	W	12	2	23	7	29	4	35	2	22	7	2	7	24	4	40	2	18	3	49	7	18	4	46	2	15											
30	T	12	2	52	7	30	4	36	3	29	7	59	7	25	4	41	3	25	4	45	7	19	4	47	3	20											
31	F	12	3	21	7	30	4	37	4	35	8	54	7	25	4	42	4	29	5	40	7	19	4	48	4	23											

## Hints for December.

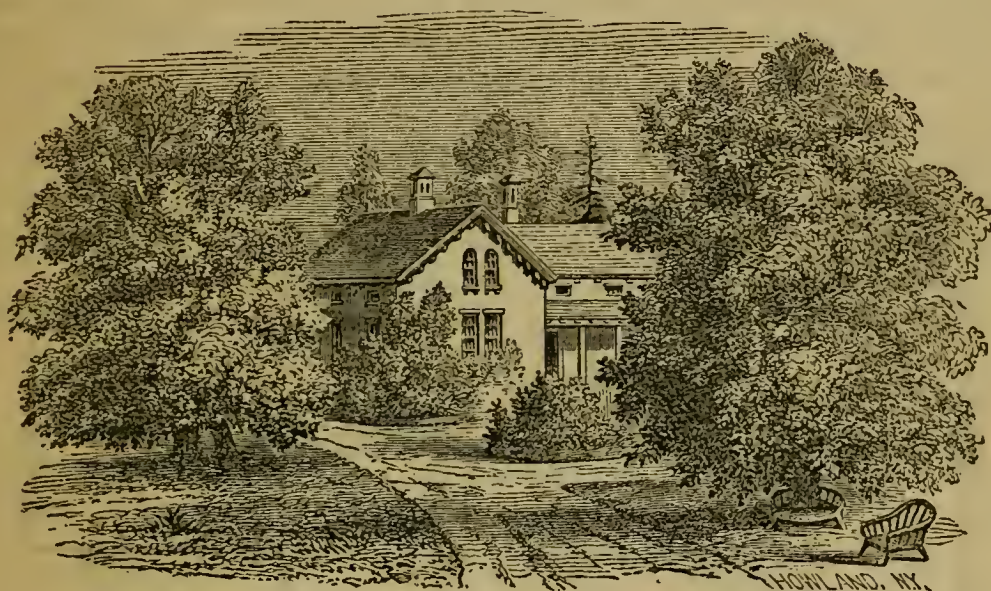
Lay plans for future—arrange the farm for regular rotation—let regularity and system be fully carried out—examine the practice of the very best and most successful farmers in the country, by that most convenient and cheap method, the reading of an agricultural paper, and use judgment and discretion in reducing to practice the many valuable hints thus obtained.

Provide good shelter for domestic ani-

mals. Pursue strict regularity in feeding and watering. Have good feeding racks to prevent waste. Chop corn-stalks fine, that cattle may eat all. Mix cut or chopped hay with straw and with meal. Keep all stables clean, neat and comfortable. Give sheep good shelter, good hay, and chopped roots. Let stock be regularly salted. See that hay is not wasted under foot. Remember that filth and thrift are eternal opponents.



THE  
ILLUSTRATED ANNUAL REGISTER  
OF  
RURAL AFFAIRS.



A COMPLETE COUNTRY RESIDENCE.



RINGING together all the luxuries which a complete country residence may afford, with all the comforts and conveniences which may be combined in a single place, is of very rare but by no means difficult attainment. Such a place must comprise, besides the best household conveniences, trees and plants for the entire circle of fruits; a first-rate kitchen garden, for a full supply of the best early, medium, and late vegetables; fresh meat and poultry; and lastly, and by no means the least, the wholesome fascinations of ornamental planting. Throwing aside the costly fruits of hot-house culture, all these may be easily had at a moderate expenditure of means.

The residence of which the description is here given, includes no more than is within the reach of a large portion of farmers. The house is less in size than would satisfy many occupants; but the owner prefers to abridge his house-room by five hundred dollars in retrenchment, and expend this five hundred in fencing, ditching, deepening the soil and manuring his grounds; in planting fruit and ornamental trees; and in giving the whole that constant attention and culture, without which the best and *most profitable* results can never be reached.

The general design, and the relative size and position of each part, are readily understood from the accompanying plan (fig. 4, p. 23) of the whole. The portion of the farm covered by this plan, is about five acres. The house is seven rods from the public road—on the right are three-fourths of an acre devoted to ornamental planting; and on the left about the same is occupied with an orchard of standard pears. Immediately back of the ornamental grounds, is an acre devoted to dwarf fruit trees, currant, gooseberry and raspberry bushes, and to vegetables between the rows. Still further back is the fruit garden of standard trees, occupying nearly two acres.

#### THE DWELLING.

The plan of the house is shown in the accompanying cuts. It fronts the south. There are three principal rooms and a bed-room below, and four

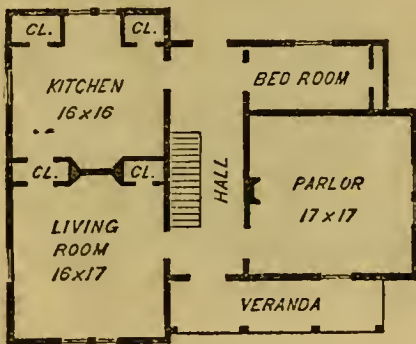


Fig. 2—FIRST FLOOR.

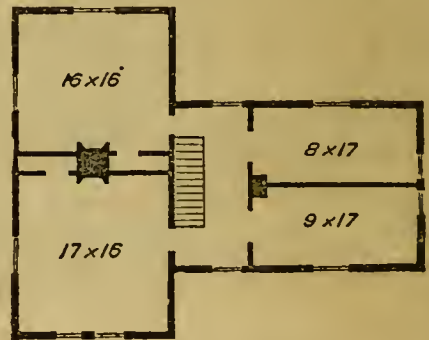


Fig. 3—CHAMBERS.

bed-rooms above. The space, although small, comprises many conveniences. But little room is consumed by the hall, although it extends through the house, and affords every facility for ventilation in summer. No room is entered through another, but all open to the hall. The chimneys, being near the center of the house, economise the heat.

A sufficient steepness is given to the roof (see view p. 21) to prevent all danger from leakage at the receding corners.

Special attention has been taken with the *cellar*—as the safe and perfect preservation of the large supplies of apples and winter pears, and of winter vegetables, is a matter of great importance. In order to keep it easily clean and sweet, a perfectly smooth floor of water-lime is laid. This is done by first paving it with small stones, and then covering these with a coat of water-lime cement, and then a second coat to render it smooth and level. Precaution has been taken to build the wall so as to prevent rats from entering, which they sometimes do, even with a water-lime bottom, by undermining it till it breaks away. The wall is laid on a base of flagging or flat stones, a few inches below the bottom of the cellar, the base projecting from the face and rear of the wall. Whenever rats burrow down for passing beneath, they invariably work close to the stone face; and when they reach the projecting flagging, they can go no farther and give up the job.



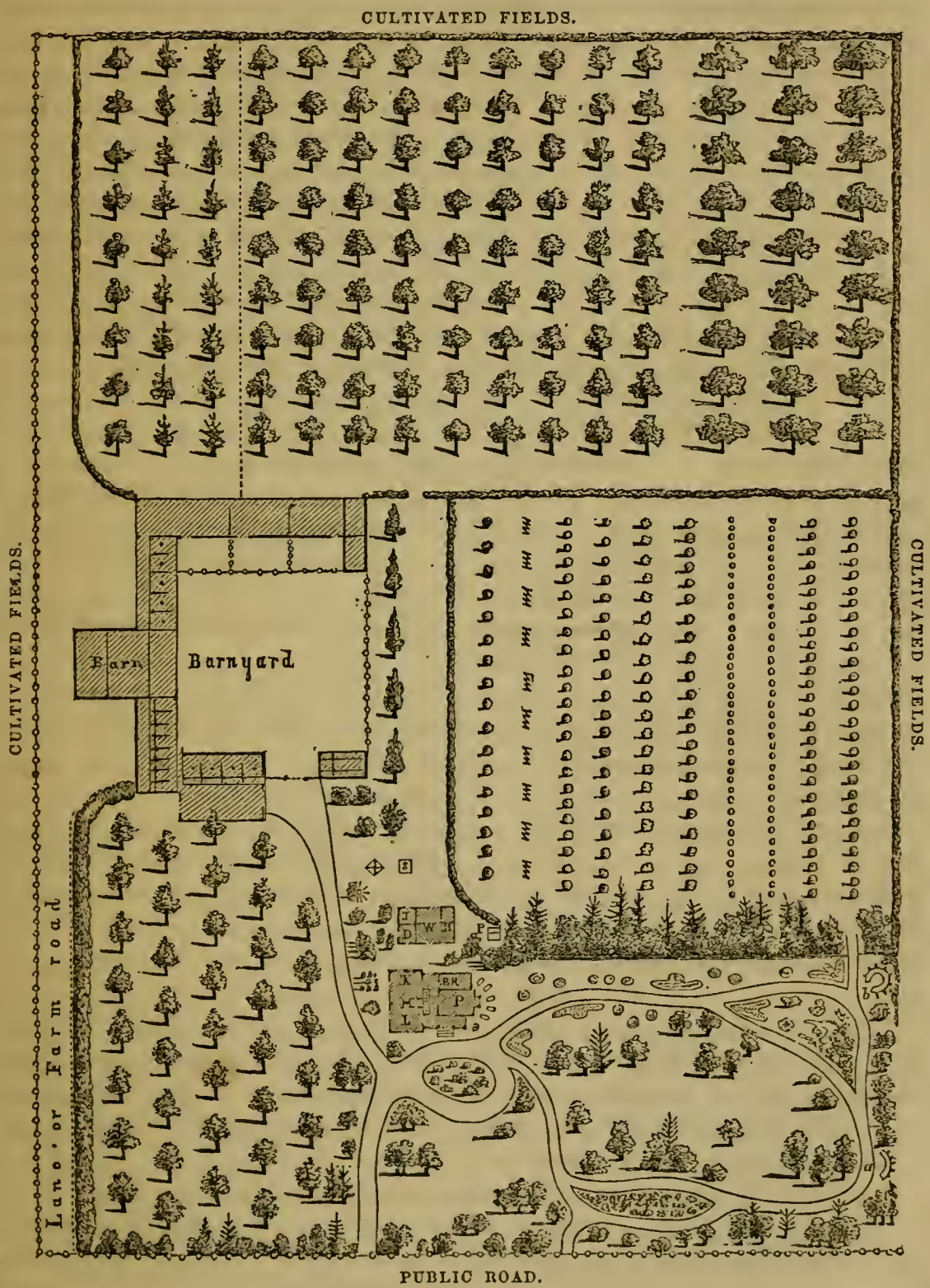
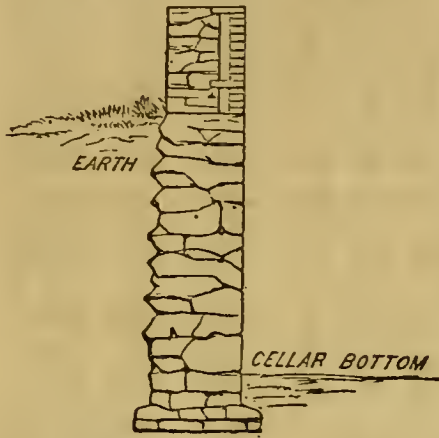


Fig. 4—COUNTRY RESIDENCE, FARM BUILDINGS, GROUNDS AND FRUIT GARDENS.

To secure the cellar from freezing, without the common disfigurement of *banking up*, that portion of the wall above ground, is built *double*—the inner wall being brick four inches thick, with a space of air two in-



ches, and an outer wall of stone fourteen inches thick, making twenty inches in all. The brick wall is stiffened by an occasional binder across to the stone; and the vacant space is filled with ashes. Tan or sawdust, or even sand, would have probably done nearly as well. The cellar windows are all furnished with double sash for winter, admitting light, but not frost. The outer of these sashes, is removed as soon as the season for severe cold is past, and the inner one being hung

on hinges, may be hooked up inside whenever fresh air is desirable. To prevent the ingress of anything from without, frames exactly the size of the outer windows, are made, and covered with wire netting; these replace the outer windows during warm weather.

This cellar is eight feet deep, and is always clean, with a pure air; and the temperature may be very nearly controlled at all times. It will consequently keep apples two or three months longer than many cellars used for this purpose, or until the season for early strawberries and cherries, so that fruit is always on hand at all seasons of the year. Fresh winter pears are preserved in the finest condition through the winter, thus prolonging the entire pear season to about nine or ten months.

A spacious rain-water cistern occupies the rear of the cellar, from which water is drawn by a pump into the kitchen above, and by a stop-cock into the cellar. This cistern is built square, of masonry, and lined inside with three coats of water lime. It is six feet deep, and is covered on the top with two-inch plank, which may be removed in part for cleaning it out.

This house may seem too small; but as three cheap laborers' cottages have been built on another part of the farm, the hired men all board and lodge themselves, and no provision for accommodating workmen is necessary. Plans of some of these cottages will be found in a subsequent part of this number of the Register.

#### THE GROUNDS.

About three-fourths of an acre are devoted to the ornamental grounds. With the exception of walks and flower beds, this is green turf. The soil which it occupies was in the first place made about fifteen inches deep, by subsoil and trench plowing, and was made fertile by manure. After most of the trees were planted, it was rendered as smooth as possible, and sown early in the spring with a bushel and a half of grass seed, brushed or



lightly harrowed in. A few weeks gave it a handsome and very dense turf. During the season that grass grows most rapidly, it is mowed closely once in ten days; later in the season, once in three weeks keeps it equally short. The young trees, for a few years after setting out, were well spaded and mulched.

The gravel road for the carriage-way, is twelve feet wide. After passing to the front of the house, and around a fine piece of shrubbery, it leads to the carriage house, the nearest of the range of farm buildings.

The foot-walks are five feet wide, and pass around nearly the whole of the ornamental grounds. One opens to the public road, and thus affords a convenient and nearly direct passage to the house.

The curves in all these walks, constantly varying in abruptness, were laid out in the following manner. Their general position was first determined, by laying off by measurement from the plan furnished, a few of the principal points. The curves were then marked out, by first laying a straight pole upon the ground, in the direction which the walk takes at the start. A peg is stuck into the ground at the first end, and another at the middle; the pole is then moved a little from its position, the middle

remaining the same, when another peg is stuck in at the other end. The pole is then moved forward, with the same slight side movement

Fig. 6—LAYING OUT CURVES.

accurately measured; and so the process is repeated, till the walk is laid out, and marked by the curved line of pegs (fig. 6.) A greater or less side-movement of the pole will make the curve long or short. If the curve is uniform, the measurement at each time will be the same. But in passing from a short to a long curve, or *vice versa*, each successive side-measurement, must exceed or diminish by a certain amount the previous one.

The ornamental grounds are most thickly planted towards the boundaries, where likewise there is a considerable proportion of evergreen trees interspersed, for the purpose of shelter. A nearly



Fig. 7—RUSTIC SEAT.

open view is left from the house diagonally across it, towards the rustic seat at *a*, so as to show the extent of the grounds, without exhibiting more than a portion of the whole at a time; and from this seat there is a picturesque view of the



Fig. 8—TREE SEAT.

house. This seat is made of red cedar boughs, closely fitted together at the joints, and is represented in fig. 7. A tree-seat, nearly in front of the

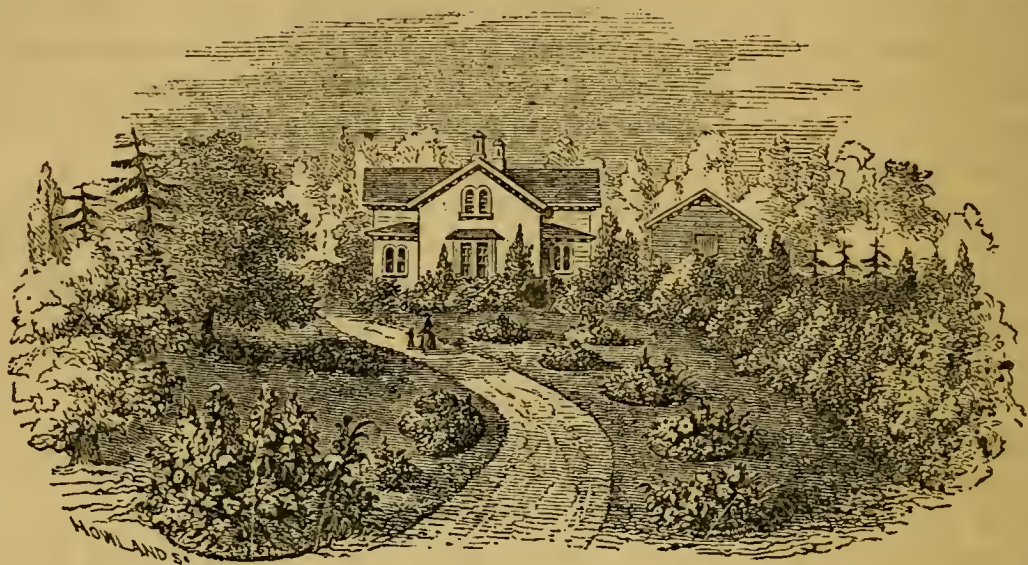


Fig. 9—VIEW ACROSS THE FLOWER GARDEN.

house is shown in fig. 8. Another open view extends from the dwelling across the flower garden to the summer house at *b*. The flower beds line the walk which passes in that direction, and are cut out of the turf, and kept in the form of neatly trimmed circles, ovals, and arabesque figures. A view across a portion of this flower garden towards the house, is shown in the above figure—(fig. 9.)

The summer house at *b*, is a very simple but neat and tasteful structure, (fig. 10,) made by first inserting into the ground eight round red cedar



Fig. 10—SUMMER HOUSE.

posts, with the bark on, in the form of a circle. These are about eight inches in diameter, and seven feet above ground after being set. They are then sawed off at an equal height, and connected together by well fitting pieces of horizontal plank, nailed on the top, and an eight-sided roof of rough boards is then added, corresponding with the octagonal form of the structure. Lath is nailed diagonally from post to post, forming lattice work, except in front, where space is left for entrance. A board seat passes around the interior, being supported by brackets beneath, nailed fast to the posts. The structure as thus made, did not cost ten dollars, every part except the seats being *rough*, (the boards unplanned,) to which three coats of whitewash made brown by a mixture of ochre, had been applied in as many successive years. A more rustic as well as ornamental appearance might have been given to it, by employing the *rustic mosaic work* described in the last number of the Register.

Except in the more remote parts of the ornamental grounds, large trees



are not planted, as they would ultimately become too large for a limited space like this, but such medium-sized and small trees as the following:—The large and red-flowering Horse Chestnut; the Dog-wood and Aronia, (the two last eminently beautiful for their profusion of early spring flowers,) the common glutinous, and honey Locust; the Siberian Crab; the double-flowering Apple; the flowering, weeping, and golden Ash; the Virgilia, Cercis, Mountain Ash, Laburnum, &c.; and the smaller evergreens, as the White Spruce, Red Cedar, Juniper, Dwarf Scotch Pine, and others of similar size. Norway and Balsam Firs, are largely planted towards the boundaries.

The oval bed in front of the house, the oblong space between the two walks near the small entrance gate, and two or three other places, are chiefly occupied with the following shrubs:—

*For Early Spring Flowering*—the Pink and White Mezereon; the White and Scarlet Japan Quince; the Dwarf Double-flowering Almond; and the



Fig. 11.

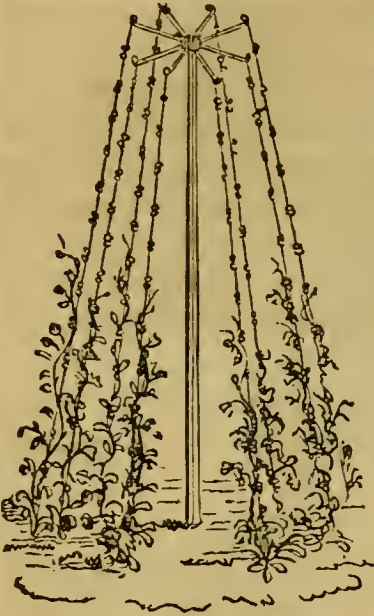
SUPPORTS FOR CLIMBING ROSES.



Fig. 12.

Missouri and Scarlet-flowering Currant. *Late Spring Flowering*—Tartarian Honeysuckle, pink, white and striped; Philadelphus, the large and the fragrant flowered; the common and Siberian Lilac; Silver Bell; Azalea; Fothergilla; Barberry; Rose Locust; White Fringe Tree, &c. *Early Summer Flowering*—Snowball, several Spiræas, Colutea, Laburnum, Fly

Honeysuckle, &c. *Late Summer Flowering*—Hibiscus Syriacus (Althea), Magnolia glauca, Ceanothus, Dwarf Horse Chestnut, Yellow Jasmine, Spiræa tomentosa and Douglassii, &c. The early summer roses create a



brilliant display in their season, and the hybrid perpetuals, and some of the hardier bourbons and noisettes, continue in bloom till cold weather in autumn. The prairie roses are in a few instances trained as pillars, according to the manner shown in the figs. 11 and 12. The more delicate climbers are provided with such structures as fig. 13. The flower beds early in spring show a display of flowering bulbs, as snowdrops, crocuses, squills, colchicums, &c., succeeded by hyacinths, tulips, narcissus, and other hardy and showy kinds. These are followed by annual flowers, which bloom profusely later in summer and in autumn. Another portion of the flower beds is devoted to herbaceous perennials, which bloom at an inter-

Fig. 13—SUPPORT FOR VINES. mediate season. (For more particular lists of flowering plants, the reader is referred to the two previous numbers of the Register.)

#### PEAR ORCHARD.

On the left or west side of the dwelling, is an orchard of forty standard pear trees, mostly of the autumn or winter sorts, early varieties not being so appropriate for so frequented a place. The following comprise these, and the number of each,—most of which being symmetrically growing trees, and planted in the hexagonal form, produce an ornamental effect, suitable for near proximity to the house:—10 Virgalien, 5 Seckel, 5 Sheldon, 5 Lawrence, 10 Flemish Beauty, 5 Buffum. Several winter sorts are planted largely in the dwarf pear garden, among which are the Glout Moreceau, Easter Beurre, Winkfield, &c. This pear orchard is protected from the west winds, and separated from the farm road, by a screen of Norway firs, which in five years from setting out, attained a height of about fourteen feet.

Another screen, mostly of evergreens of several different species, to impart variety of appearance, separates the ornamental grounds from the dwarf fruit tree and kitchen garden. The inner line of this screen is straight and kept sheared; the outer is irregular in outline, to harmonize with the rest of the planting on that side. This screen forms a fine shelter on the north side of the flower garden.

#### THE DWARF GARDEN

Is entered near the house, and also from the ornamental grounds at the summer house near *b*, through an arch made by training two trees together





Fig. 14—VIEW OF THE DWARF PEAR GARDEN.

overhead—(fig. 15.) This garden occupies an acre, and contains in the first four rows, (counting from the west,) 80 dwarf pear trees; in the fifth row, 20 dwarf apples; in the sixth, 40 currant bushes; in the seventh, 40 gooseberry bushes; in the eighth, 15 raspberry bushes or stools, and 15 New-Rochelle blackberry; and in the ninth, 15 dwarf cherry, and 15 quince bushes. A row of grapes is planted between the first and second rows of trees.



Fig. 15—ARCHED GATEWAY.

These rows of dwarfs, &c., are placed one rod apart, giving plenty of space for cultivation between, which spaces are occupied by garden vegetables, and constitute

#### THE KITCHEN GARDEN.

The rows of dwarfs, running north and south, do not shade the plants growing between them, except an hour or two in the morning, and for the same length of time before sunset; and as dwarfs generally have very short and numerous roots, they do not operate as standard fruit trees in withdrawing nourishment from the soil for some distance off.

The strips of land between the rows of dwarfs are a rod wide, but only about ten feet are planted, leaving three feet next the trees on each side. More than half an acre of actual space is thus allotted to the kitchen vegetables,—which, with the exception of a few of the very smallest, are all planted in drills or double drills, and cultivated by horse labor. One strip of soil between two rows, is devoted to *beds*, occupied with radishes,

lettuce, spinach, onions, and other crops of smaller growth; and after this strip is deeply plowed in spring and planted, it is afterwards cultivated exclusively by hand. All the rest, planted with beans, peas, melons, potatoes, beets, parsnips, and even asparagus and strawberries, are cultivated with a horse, and in this way at least four-fifths of the ordinary labor for kitchen gardens is saved; while this rapid means of stirring the soil, keeps it more thoroughly mellowed than could be effected by hand, and as a consequence the crops are larger and better. The cultivator used for this purpose is one which admits of contracting its sides to within one foot of each other, fitting it for narrow drills. This mode of cultivating is especially adapted to farmers' grounds, and not to small village gardens, where horse-labor cannot be so well applied, and is not easily obtained. It has another two-fold advantage;—in manuring for vegetables, the dwarf trees get their share, so essential to success; and in cultivating the vegetables, the trees are not likely to be neglected.

#### THE FRUIT GARDEN

Lies immediately back of the vegetable garden and farm buildings. It is occupied with two rows of plums, 18 trees, (beginning on the west side, and running north and south,) one row of apricots and nectarines, 9 trees; three of early standard pears, 27 trees; two of cherries, 18 trees; four of peaches, 36 trees; and three of early and autumn apples, 27 trees; the latter not only for table use, but to supply the large quantities which are consumed for stewing and baking. Pigs and poultry are allowed to run freely in this fruit garden during the season of the setting and growth of the fruit; and when these are insufficient to destroy all the fallen and wormy fruit, special attention is given to the two rows of plums and one of nectarines and apricots, by running a temporary or hurdle fence at the place indicated by the dotted line, so that enough of these animals may be placed in the smaller enclosure to destroy all the curculios that drop in the punctured fruit.

More room is given in the fruit garden to the apple than to other trees, by placing the rows wider apart, without disarranging the rows in both directions, or preventing the free cultivation of these trees by horse labor—so essential to their healthy growth, and to the quality of the fruit.

A large orchard of winter apples grows on a more remote part of the farm.

The fruit garden, and the dwarf and vegetable garden, are both surrounded with an excellent Osage Orange hedge, which no fruit-stealer can pass. By keeping the soil deep, dry by draining, and well mellowed by cultivation, a good barrier was formed in four years. The usual error of not *cutting down* was carefully avoided in training this hedge. A good beginning was made at the commencement, by shearing off the first year's growth (*a*) within three inches of the ground—(fig. 16, a side view.) The thick mass of vigorous shoots springing up from this shearing, was



Fig. 16—SHEARING DOWN  
YOUNG HEDGES.Fig. 17—PROPERLY TRIMMED  
HEDGE—(end view.)Fig. 18—BADLY TRIMMED  
HEDGE, (end view.)

cut again four inches higher about midsummer, and similar and successive cuttings, each a little longer, in the two following years, brought the hedge up to its full height. The form adopted in shearing is shown by



Fig. 19—NEGLECTED HEDGE, (side view.)

the cross-section in fig. 17, the upper part terminating in a sharp ridge, and growing wider towards the bottom. In this way the lower part preserves its growth, vigor, and denseness, and is not thinned by the shading of the broad top, so commonly seen, and exhibited in fig. 18. A

neighbor, who made a good beginning with a hedge of the Osage Orange, could not be persuaded to cut off "the fine growth" after the first season, as represented in fig. 16; his hedge consequently never thickened at the bottom, and now presents the appearance shown in the side view—fig. 19.

#### OUT-BUILDINGS.

Immediately behind the dwelling, and fifteen feet from it, is the building containing the wood-house, dairy and ice-house. The inconvenience of a separate wood-house, is balanced by the advantage of exclusion from the noise of cutting and sawing, which would be more annoying in immediate contact with a small house. The dairy, although fronting the south, is kept cool by several dense evergreen trees on its south-west corner, and by the ice-house in its rear.

The privy, P, is flanked by evergreen trees, and the passage to it is lined on both sides by Norway firs, which meet over head, and are kept sheared next to the path which it covers, thus forming at all times a sheltered green avenue.

The smoke-house, s, (fig. 20,) is behind the ice-house. It is built of brick, with a stone basement for ash-pit, the latter being about four feet high, plastered smoothly with water-lime inside, and with a loose plank-covering or floor, partly separating the ash-pit from the smoke-house



Fig. 20—SMOKE-HOUSE AND ASHERY.

above, and through which the ashes may be poured down. For smoking the meat, a fire is built on this ashes, where it may be perfectly controlled, and the smoke rises above. A ventilator surmounts the building, which is closed or opened at pleasure, to prevent the dampness so common otherwise with brick smoke-houses, on the one hand; as well as a too free escape of smoke on the other. West of the smoke-house is the circular revolving clothes-line frame.

The range of Farm Buildings, is nearly explained by the annexed enlarged plan, fig. 21. The nearest corner is occupied by the piggery, for convenience in emptying

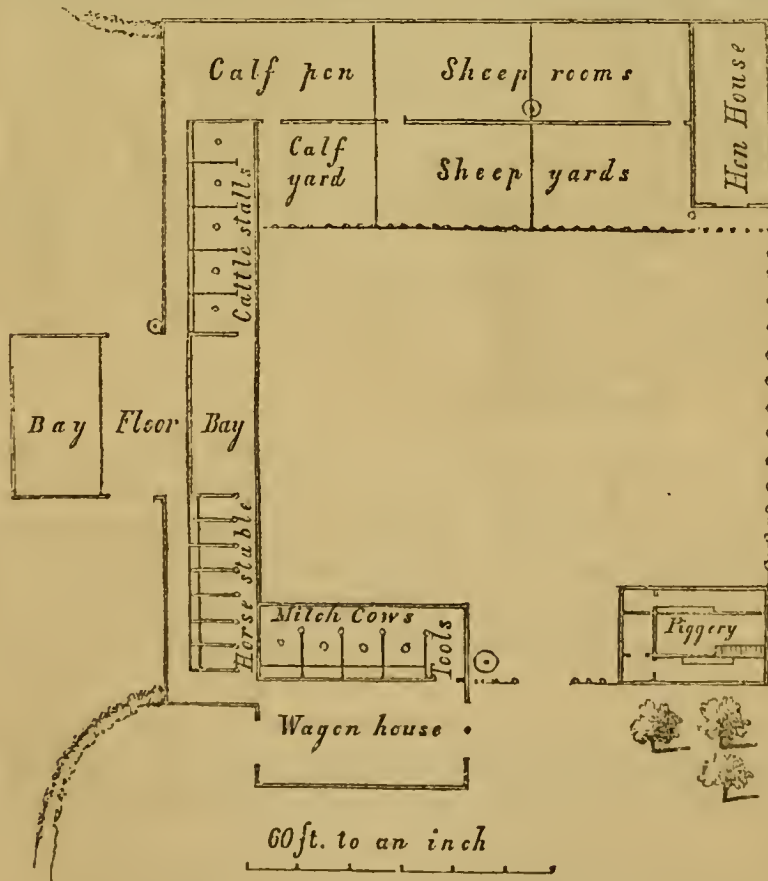


Fig. 21—RANGE OF FARM BUILDINGS.

swill from the dairy and kitchen. A plan of this building is shown in fig. 22, where the larger feeding pen and lodging room, on the right, are occupied by the larger animals; those of medium size on the left, and the smaller ones by the central pen. An end or east view of this building is shown in fig. 23, exhibiting the large ventilator to preserve pure air, behind the cooking-room chimney. Great pains are taken to keep all the pens dry, clean, and

suitably littered.

The wagon-house, next on the left, is forty feet long, so as to afford



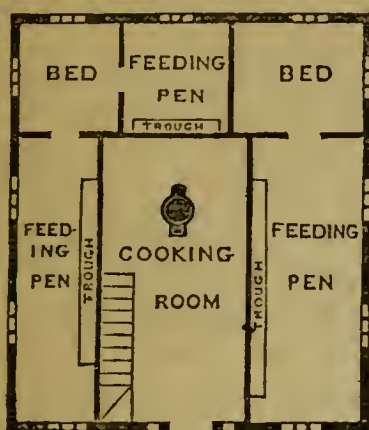


Fig. 22—PLAN OF PIGGERY.

ample shelter to wagons, carriages, and other vehicles, which may be driven through, and out at the opposite door. A short alley, under the same cover, allows the horses as soon as they are taken off the wagon, to be led directly to the stable, without passing out of doors. A lean-to is built on the north side of the wagon-house, occupied by a tool-house opening to it, and apartments for eight milch cows, which are kept thus near and convenient for milking in winter. The mangers of this cow-stable are filled from the hay-loft over the wagon-house, by simply thrusting it down an opening directly over them.

The barn itself is 30 by 45 feet, and is built on the usual plan, with a floor in the center, and bays on each side; a portion of the inner bay is

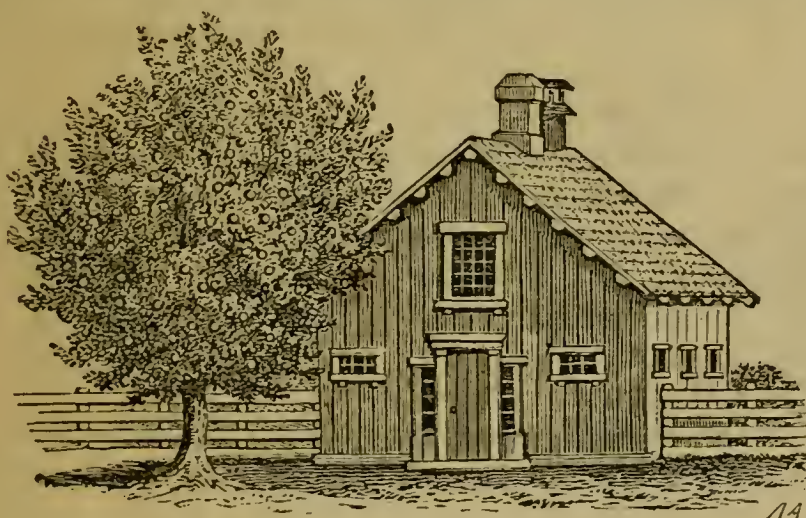


Fig. 23—END VIEW OF PIGGERY.

reserved for straw, which is kept dry and clean, for both litter and chopping into cattle feed. The threshing is mostly done in winter, by means of a small thresher driven by an endless chain horse power; and usually only half a day's threshing is done at a time,

as freshly threshed straw is better liked by cattle than if old and in large heaps. This horse power, placed on the barn floor, is also used for cutting or chopping hay and straw for cattle and horses; and when removed to the wood-house in summer and autumn, is employed for driving the dairy churn, the grindstone, and for sawing wood for winter and summer use.

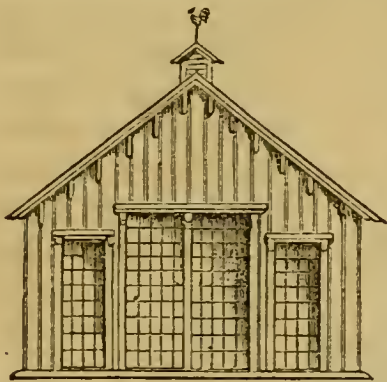
It will be observed that teams may enter the barn and pass out on the opposite side, from the farm road, with but a slight variation from its direct course.

The range of horse stables on the nearer side of the barn, and of the cattle stables on the other side, may be entered, or supplied with grain or other food, by a covered passage from the barn floor. The calf and sheep pens explain themselves—an open yard being attached to each. All this

range of buildings for stables and shelter (except the wagon-house and barn,) are about of equal height, and have ample hay-lofts over them, from which the hay is thrown down into the racks and mangers, through openings, with great facility. They form a hollow square, enclosing the barn-yard,—which is thus sheltered well from south, west, and north winds; and all the water of the roofs is kept from washing the manure, by means of eave troughs passing into three ample cisterns, (shown by the circles) from which horses, cattle, and sheep are readily watered by means of chain pumps. These cisterns are several times larger than cisterns commonly made for the purpose, and from the extent of roof which supplies them, afford at all times an ample supply of water for domestic animals, although a good well has been dug near at hand for such animals as are not accustomed to drink rain water.

All the stables are kept in the neatest order, and when in use are always cleaned at least twice a day.

The *hen-house* is the last building in the further range, an enlarged plan and elevation of which is here given. Fig. 24 is the elevation or view of



24—END VIEW OF HEN HOUSE.

the south end, and the house is amply and almost wholly lighted at this end, by four large windows, one of which also serves as the entrance door—a strong light, from the warm side being

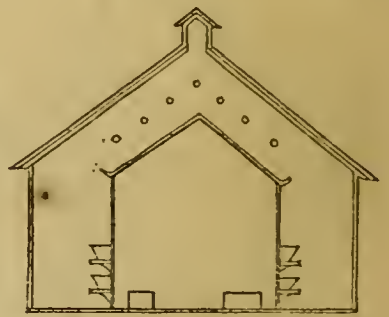
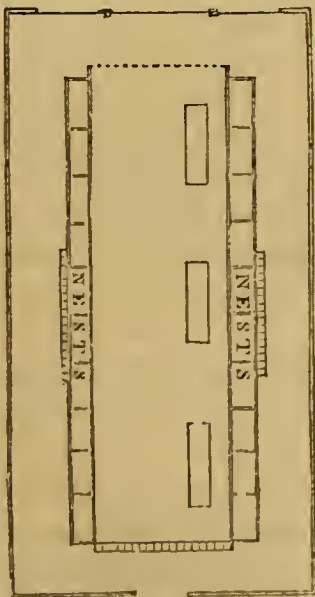


Fig. 25—VERTICAL SECTION.



26—PLAN OF HEN HOUSE.

especially necessary and useful to a hen-house. Fig. 25 is a vertical cross section—the middle enclosed portion being the “common room,” with feeding boxes, trough for water, and a large box of sand for the hens to play in. This room is covered by a *board roof*, two and a half feet below the outer roof, and over this board roof, seen endwise, are the roosting poles. The droppings from these poles fall upon the board roof, and roll down it till they come to the trough at its lower edges, where they are retained, and from which they are easily scraped or swept into a basket and carried to the compost heap. The board walls on each side of the common room, form secluded passages behind them, where two tiers of boxes for nests run their whole length, as shown in the plan, fig. 26. From this



hen house, the inmates are at any time readily let loose into the fruit garden behind it, the latter at most seasons of the year forming the poultry-yard. The poultry-house is provided with a copious ventilator, which may be opened or closed at any time by a rod extending down within reach—free ventilation being of great importance to preserve the comfort and health of fowls, and without which the roosts would become excessively hot in summer nights.

Among some of the luxuries which this place affords, are the following : By means of a hot-bed, the earliest vegetables are obtained almost as soon as ordinary growth commences, and a constant succession in large variety is kept up till winter, after which a supply is still maintained of the winter varieties, such as winter squashes and winter radishes, celery, cauliflower, beets, parsnips, and other roots. The circle of fruits commences with the Early Scarlet and Burr's Pine strawberries, and the early cherries; which are followed by other varieties of the same kinds, continuing the supply till a month or two later. These are immediately followed by raspberries, the new blackberries, early pears, apples, and apricots, and soon after by the earliest plums and peaches. During the whole of autumn, there is a profusion of the different sorts; and winter apples and winter pears usually last till early strawberries the following summer, through the assistance of an excellent cellar. Grapes are kept in the best condition through most of the winter, packed in boxes and jars. Honey from the bees, eggs and fresh poultry from the poultry-house, the richest milk, cream and butter from the dairy, are not omitted in their place.

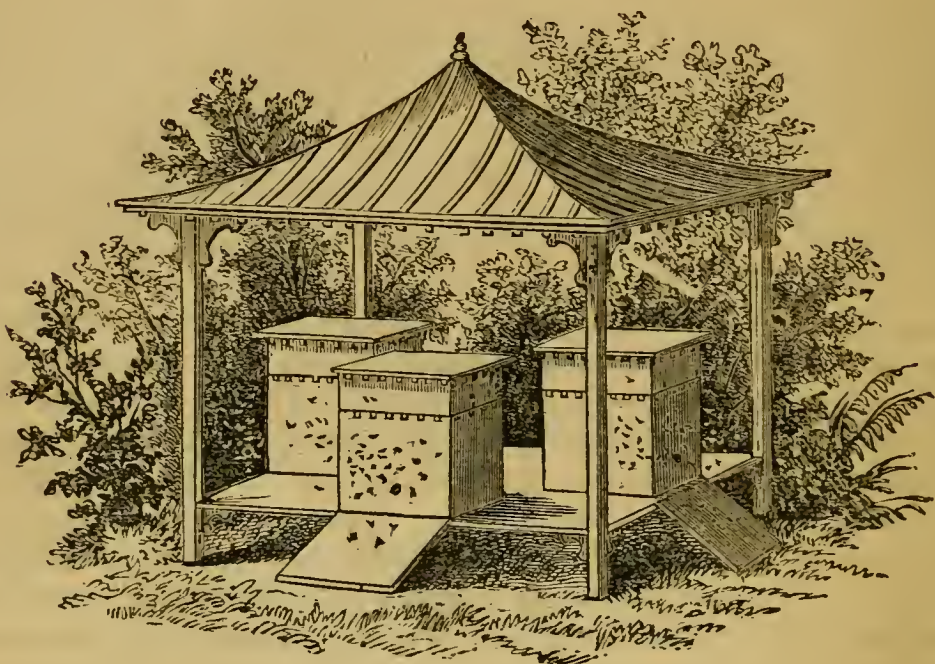
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### Rules for Exterior Designs for Houses.

1. In all cases study beauty of form and proportion, and not ornament. Tasteful simplicity is better than fanciful complexity—as a statue in simple drapery is better than one bedizzened with feathers, ribbons, and unmeaning gewgaws.

2. Proportion may be shown in the smallest cottage as well as in the most magnificent palace—and the former should be carefully designed as well as the latter. However small a building may be, let it never show an awkward conception, when a good form is more easily made than a bad one.

3. The general outline of a building should not only exhibit good proportion, but every part. The height of a room, of a door, a window, should accord with its breadth; and the distance and distribution of these should observe the same rule, and should correspond with the expression as a whole.



### THE APIARY.

EVERY prosperous swarm of bees must contain one queen and several thousand workers, and part of the year a few thousand drones.

The queen (fig. 28) is the mother of the entire family; her duty appears to be only to deposit eggs in the cells. She is longer than either the



Fig. 28—QUEEN.



Fig. 29—WORKER.



Fig. 30—DRONE.

drones or workers, but her size in other respects, is a medium between the two; in color, darker on the upper side, and her legs and under side somewhat yellowish.

All labor devolves on the workers—(fig. 29.) They range the fields for honey and pollen, secrete wax, construct combs, nurse the young, &c.

The drones (fig. 30) are large and clumsy, and of the least value. They are reared by strong swarms when honey is abundant, and destroyed soon after its failure.

In spring and first of summer, brood is reared more extensively than at any other period. The hive soon becomes crowded with bees, when they commence queens' cells (fig. 31, *a*, *b*,) preparatory for swarming. When





Fig. 31—THE THREE KINDS OF CELLS.

one or more of them are advanced sufficiently to be sealed over, (*c*,) the old queen with the first swarm leaves. The young queen matures in eight or ten days, and leaves the cell, (*d*,) and if bees and honey are sufficiently abundant, she leads off a second swarm. In a day or two after, the third often follows. When it is decided that no more are to issue, whether one or three have left, all supernumerary queens are destroyed; such as are in the cells are removed prematurely, leaving it like *e* in fig. 31.

#### PRACTICAL RULES.

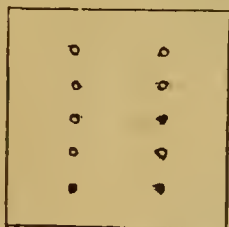
Each good early swarm of bees in ordinary seasons, will store more than is needed for their own consumption in winter. This surplus, with proper arrangements, may be taken from them without detriment to their future prosperity. This principle lies at the foundation of all profit in modern Bee culture.

If this surplus is designed for market, the hive should be arranged for glass boxes. If for home consumption, the simple box hive with holes through the top, and a simple rough box to hold 25 or 30 pounds set over, is all sufficient—the honey will be of the same quality. Yet the honey stored in glass boxes presents its qualities through the glass so temptingly, that it will sell in market at higher prices than the other; and the boxes, if lightly made at the same rate, which pays the extra expense for them.

#### THE SIZE OF THE HIVE,

For all sections north of 40 degrees, should be 2,000 cubic inches—south of that about 1,800. The winters are longer in a high latitude and require more stores for winter,—a large hive will secure it,—but in any section there must be room for brood combs, and not much less than 1,800 will do.

The cheapest material for hives is sound inch boards, unplanned except at the corners to make close joints. A suitable shape, is 12 inches square inside, and 14 high—sticks are needed across the center inside each way, to help support the combs, and a hole for the bees to pass in the front side, one-third the way up. The top should be 15 inches square, and project a half inch over each side the hive. Plane only the upper side; rabbet out the corner an inch wide and half inch deep, upon which a box or



cap 13 inches square inside, will exactly fit. This cap is for cover to glass boxes, and should be seven inches deep, and may be made of half-inch boards. Through the top of the hive (fig. 32) make two rows of inch holes, about three inches each side of a line drawn through the center. They should be uniformly distant

Fig. 32—HIVE TOP. to match others in the bottom of glass boxes that are to fit over them. This is now ready to be nailed on the hive—stop the holes and set it away for use.

Two glass boxes,  $12\frac{1}{2}$  inches long by  $6\frac{1}{4}$  wide, (fig. 33,) are to go on the hive at once, or four,  $6\frac{1}{4}$  square, may be used. For the wood part of these, (top and bottom,) thin boards are planed to one-fourth inch thickness, and cut to the proper length and width; through the bottom make holes to correspond with those in the top of the hive. The posts for the corners are five-eighths inch square, and five inches long. In two adjacent sides of each, make a narrow groove with a saw or other tool, one-fourth inch deep for the glass to fit in. Set up the box by nailing through each corner into the posts. Smaller posts may be used and the glass held by pieces of tin if preferred. Pieces of new white comb an inch square, are fastened to the top two inches apart—it is done by dipping one edge in melted beeswax and applied before cooling. Glass are cut the right size from panes 10 by 12, with little



Fig. 33—GLASS BOX. bottom up, showing the holes in the bottom and combs in the top.

through each corner into the posts. Smaller posts may be used and the glass held by pieces of tin if preferred. Pieces of new white comb an inch square, are fastened to the top two inches apart—it is done by dipping one edge in melted beeswax and applied before cooling. Glass are cut the right size from panes 10 by 12, with little



waste, and slipped into the channels, and the other part nailed on; it is ready for use, when the condition of the stock or swarm requires it.

The stand is made of inch boards 15 inches wide by two feet long, the ends nailed on pieces of wood or joist from two to four inches square, and put directly on the ground, with the hive on the back end. The advantages will balance any little trouble of keeping down grass, weeds, &c. The roof is made by nailing together two boards like a house roof, 18 by 24 inches, and laid on loosely. This can be drawn over to protect the hive (fig. 34) from the sun in hot weather, and put back to allow the direct rays of the sun to strike it in spring or other time when only moderate.

Fig. 34—HIVE ROOF AND STAND.

Those who cultivate bees for *profit* alone, will dispense with all ornament, and take only the necessary measures just de-

scribed to secure it. But to have the apiary correspond with other fixtures of an establishment, ornaments (fig. 35) may be added to this hive without detriment, if the principle is preserved.

In painting hives, &c., light colors are preferable.

The apiary should be protected from winds by a high board fence or buildings. When not limited for room, stands should be placed four feet apart.

Whenever the bees of old stocks are crowded outside of the hive, when *that* is raised half an inch for ventilation, it is time the boxes were added, if in a season of honey. New swarms should receive the boxes a little before the hive is full, unless the honey season is

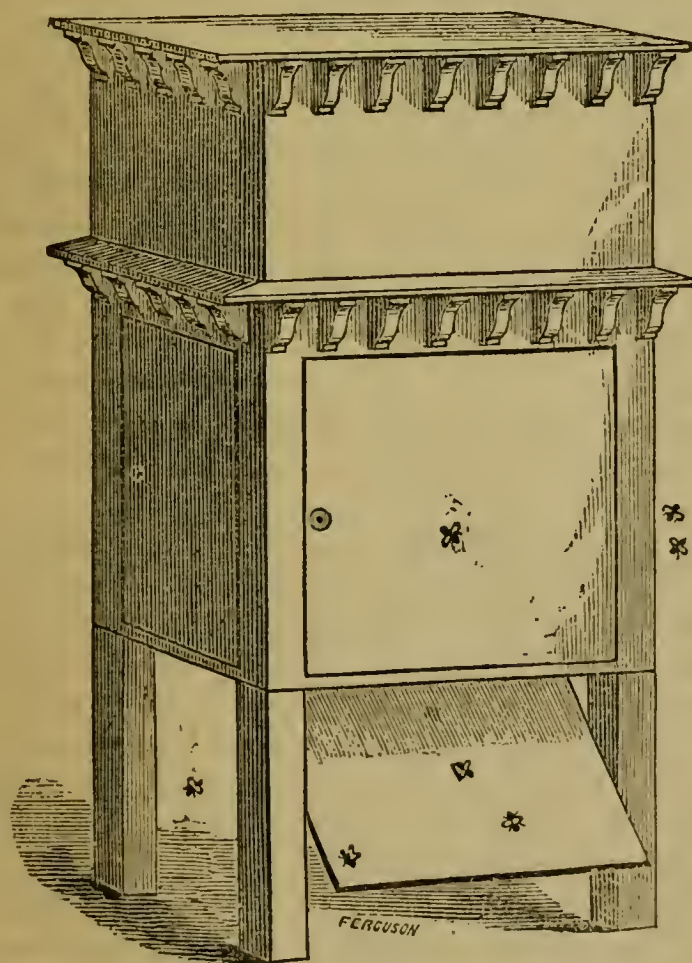


Fig. 35—ORNAMENTAL HIVE.

too nearly over. Full boxes should be exchanged for empty ones as fast as filled.

Bees in this latitude commence swarming (fig. 36) some seasons the last of May, and cease the 10th of July; in others they commence as late as

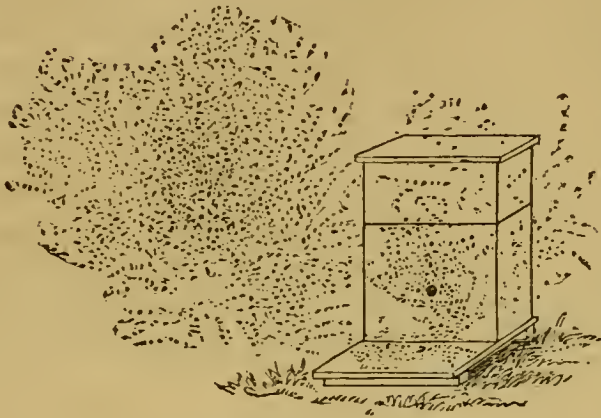


Fig. 36—SWARM ISSUING.

the 20th of June, or even later, and get through about 25th July, and occasionally a buckwheat swarm in August. First swarms seldom issue earlier in the day than nine o'clock, or later than three. Second or after swarms sometimes as early as seven, and as late as five. All swarms should be hived soon after clustering. It is not very important what process is adopted; when convenient, they are readily dislodged and caught in the hive, and that set upon a board on which are small sticks to raise it an inch. Sometimes a portion will remain on the outside of the hive—these may be made to enter by gentle disturbance with the feather end of a quill, or a slight sprinkling with water. When they have entered they may be carried at once to the stand,—the front side to be raised half an inch, and the whole hive effectually protected from the sun. First swarms are usually large enough for one colony, and when practicable should be kept separate. Second swarms are generally half as large as the first, and when near one time, two may be united. Third swarms are still less, and should have their queens taken away from them and returned to the parent stock, or several such united. This secures strong colonies, which will repel any attack from the moth more effectually than small ones. The principal secret of success against this enemy is in this point—*strong colonies*.

In the fall as soon as honey fails in the flowers, every stock and swarm should be examined, and *all*, not strong enough to defend their stores from robbers on the start, should be at once removed—they *cannot* be wintered, and leaving them longer will only give rise to vexation and loss—it is better and much easier to prevent an evil here than to cure it afterwards. In the spring weak stocks with proper care may recover and be worth something. The apiarian should know which they are, and close the entrance, allowing only one bee to pass at once. This will give a weak family that has energy, a chance to repel all strangers.

None but strong healthy stocks should be selected for winter. If left out-doors, a free admission of air must be secured; at the same time the mice must be kept out. Wire cloth is a good article for the purpose, cut into suitable pieces and fastened with small tacks over the entrance in such a way that the bees may pass, but not the mice. It is safer to have them in the sun, than wholly shaded during long terms of cold weather.



Where a large number are to be wintered, a warm dark room or dry cellar of suitable size to hold them conveniently, is probably the safest place. At the beginning of severe weather they are to be housed. To prevent the combs from moulding, the hive should be turned bottom up and the holes in the top opened. Small blocks of wood an inch square, are first put down to hold the hive. One row is put down on the bottom on one side of the room; a shelf a few inches above receives another row, and now still another above, when another commencement is made at the bottom, and continued in this way till the room is full. The shelves should be loose and put in as needed; and taken out as the bees are removed. They will then not be in the way in placing the hives, as sudden jars are to be avoided. The first fine days of March or April, they can be set out. The snow is no objection, if it is only a little hard; about a dozen only should be taken out at once. In an hour or two, most of the bees will have been out and returned, when as many more may be set out; choose the warmest part of the day, and if practicable each hive should occupy its old stand.

For the sake of brevity, many of the reasons that have dictated these rules are not given. Many important points are unnoticed, others only glanced at; they are valuable to some extent, and the reader who wishes to realize the most profit from his bees with the least trouble and expense, will find the hive here recommended valuable. M. QUINBY, *author of "The Mysteries of Bee-Keeping Explained."*

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## COUNTRY HOUSES.

No greater drawback to the comforts and attractions of country life exists, than in the drudgery and discomforts to which farmers' wives and daughters are subjected in boarding and lodging large numbers of *hired men*. Laborers' and mechanics' wives have a comparatively easy life, having but small families to provide for; but the wife of the large farmer, who must supply hearty meals for fifteen or twenty persons, at least three times a day, passes a life of hopeless drudgery. No wonder then, that we so frequently see them broken down with premature old age, while the mechanics' and merchants' wives are straight, blooming, vigorous and active. No wonder, that farmers' sons turn away from such scenes of discomfort, to the "learned professions," and that young women generally, but especially town ladies, look upon it as a sort of state-prison-punishment to be compelled to marry a young farmer, especially if he cultivates many hundred acres.

Nothing would sooner render agriculture respectable, honorable, pleasant and attractive to young people, and profitable to all, than the practice

of erecting good laborers' cottages, (such as industrious and respectable laborers would like to occupy,) so that farm hands may board themselves, and the owner's family may enjoy the quiet and exclusion to which they are as fairly entitled as other men's families. The writer speaks from long and ample experience in saying, that by thus employing married men chiefly, better hands may be had, and at less total cost, than by any other way.

It is for these reasons especially, that plans of **LABORERS' COTTAGES** merit a full share of attention among those of Country Houses generally.

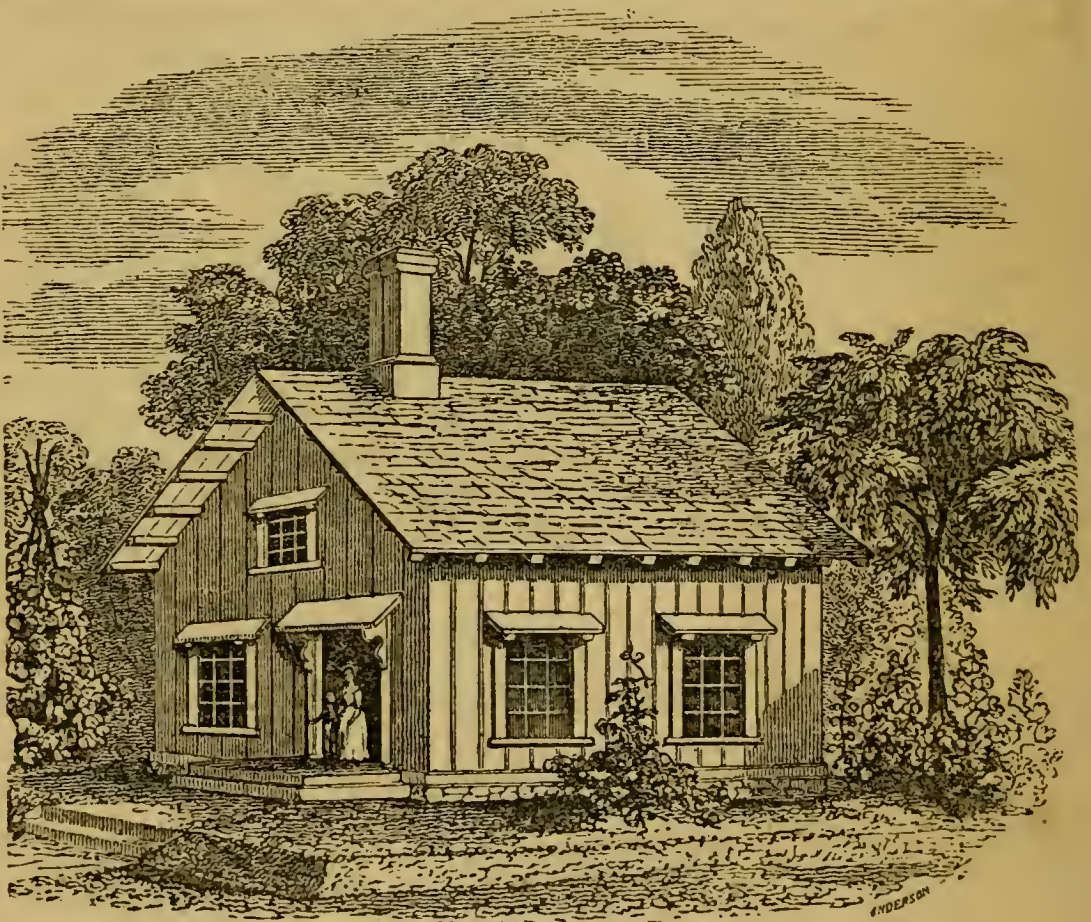


Fig. 37—LABORER'S COTTAGE.

The design here represented, is one of Downing's. It is simple, cheap, and substantial. The mode of building is distinctly shown in the view; the battened vertical boarding being as cheap as thin horizontal clapboards, more durable, and stronger—on the whole better adapted to buildings of this character. A considerable amount of expense is saved by using *rough* boards, which are rendered equally ornamental with planed boards by a coating of light brown oil paint. It is proper to remark, that the window-hoods should be made of plank at least two inches thick.

An improvement of the plan (fig. 38) may be made by placing a door so that the bed-room shall open directly into the living-room, and by en-



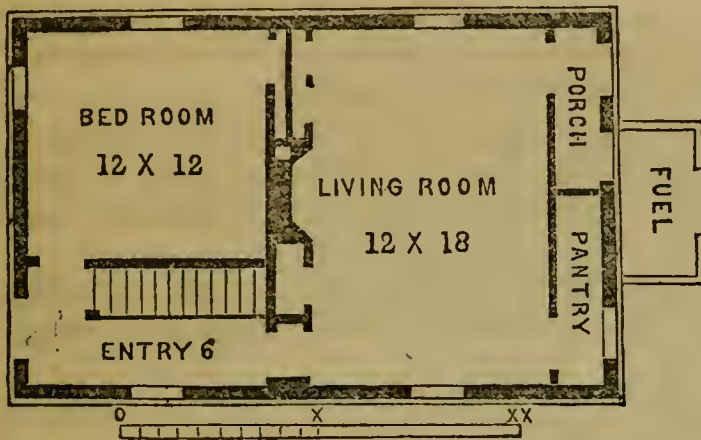


Fig. 38—PLAN OF LABORER'S COTTAGE.

filling and with cellar under the whole, is about three hundred to three hundred and fifty dollars. Without the cellar, it would be sixty or seventy dollars less. It may be built in a cheaper manner, without brick filling, and of poorer lumber, for two hundred, omitting the cellar.

larging the wood-room in the rear. The cellar stairs are under the entry stairs, so that ready access is obtained to the cellar from the living-room; while an out-door entrance is placed under the pantry window. There are two comfortable rooms above.

The cost of this cottage well built, with brick

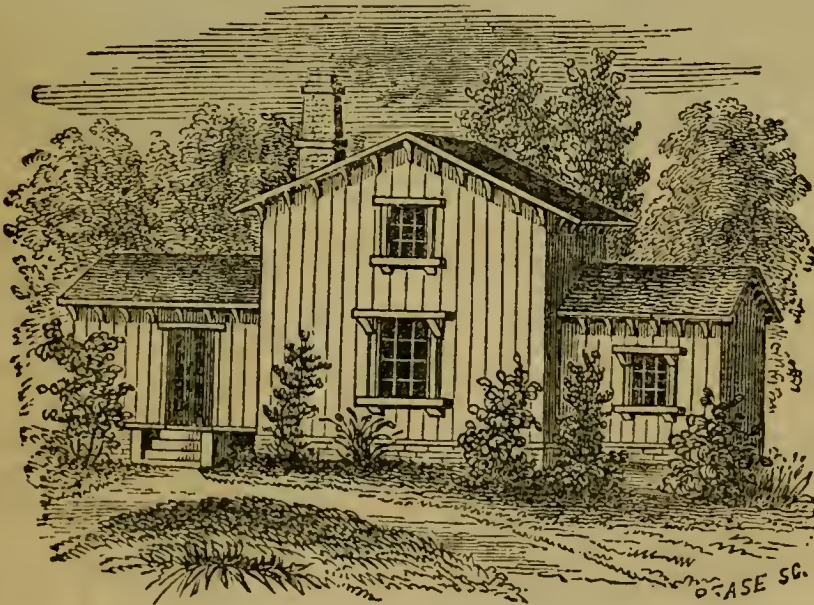


Fig. 39—LABORER'S COTTAGE.

This cottage was built of small frame timber, the two wings firmly bracing the central portion, four inch scantling being found quite large enough for this purpose. The plank siding formed the only connection in the frame between the plates and sills—lessening the cost. The exterior is rough, and is occasionally whitewashed—obviating the

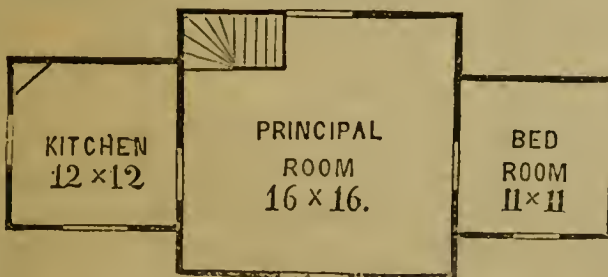


Fig. 40—PLAN OF LABORER'S COTTAGE.

expense of painting the large exterior surface. The actual cost of this cottage, built when lumber was cheap, was less than two hundred dollars.

The plan (fig. 40) will show the internal arrangement. A cellar is situated under the kitchen ; and a spacious chamber over the principal room, may be divided into two small bedrooms. The kitchen ceiling is lathed on the rafters,—the chimney is built on the floor of the chamber in the principal part, so that the pipe from the cook stove passes horizontally into it. The pipe from the stove in the principal room, passes through the floor above into the same chimney. The floors for the kitchen and chamber are made of rough boards.

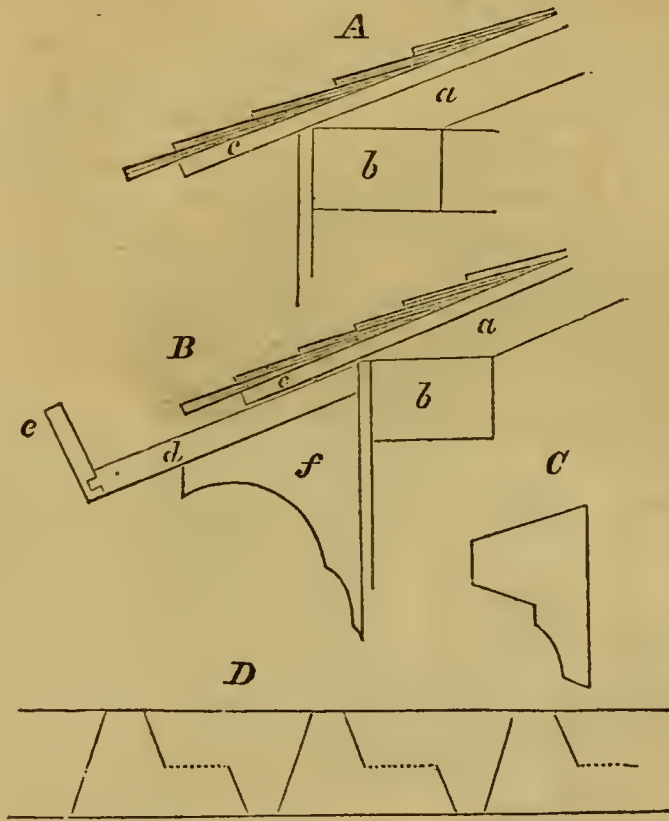


Fig. 41—EAVE TROUGHS.

The mode of constructing the eave troughs is shown in fig. 41, and they are found cheap and good. *A* represents the eaves simply, *a* being the lower end of the rafter, resting on the plate *b*, supporting the edge of the roof-board *c*, which projects about eight inches. *B* exhibits the same with the eave-trough attached ; which is done by placing a sound and durable inch-and-a-half plank, *d*, directly under the roof-board, and projecting several inches beyond it, supported by the brackets, *f*. The strip *e*, is added by matching, forming the trough. A coat of good paint completes it. A lining of tin-plate, or zinc, would be more substantial. *D*, shows the mode in which the two-inch plank, for brackets, is cut up without waste. The cross lines are for the saw, the dotted lines where the wood is separated by splitting. *C*, is a finished bracket.

#### A SWISS SUBURBAN COTTAGE.

The Swiss cottage, as commonly built, is hardly adapted to the purposes of a residence in this country. Its picturesqueness may be retained, however, without copying its defects. The view here presented, (fig. 42,) has the boldness of the Swiss style much subdued, and is accompanied with more neatness of expression than is commonly found in this style. It exhibits a cottage, built on the grounds of E. P. PREXTICE, Esq., of Albany, and



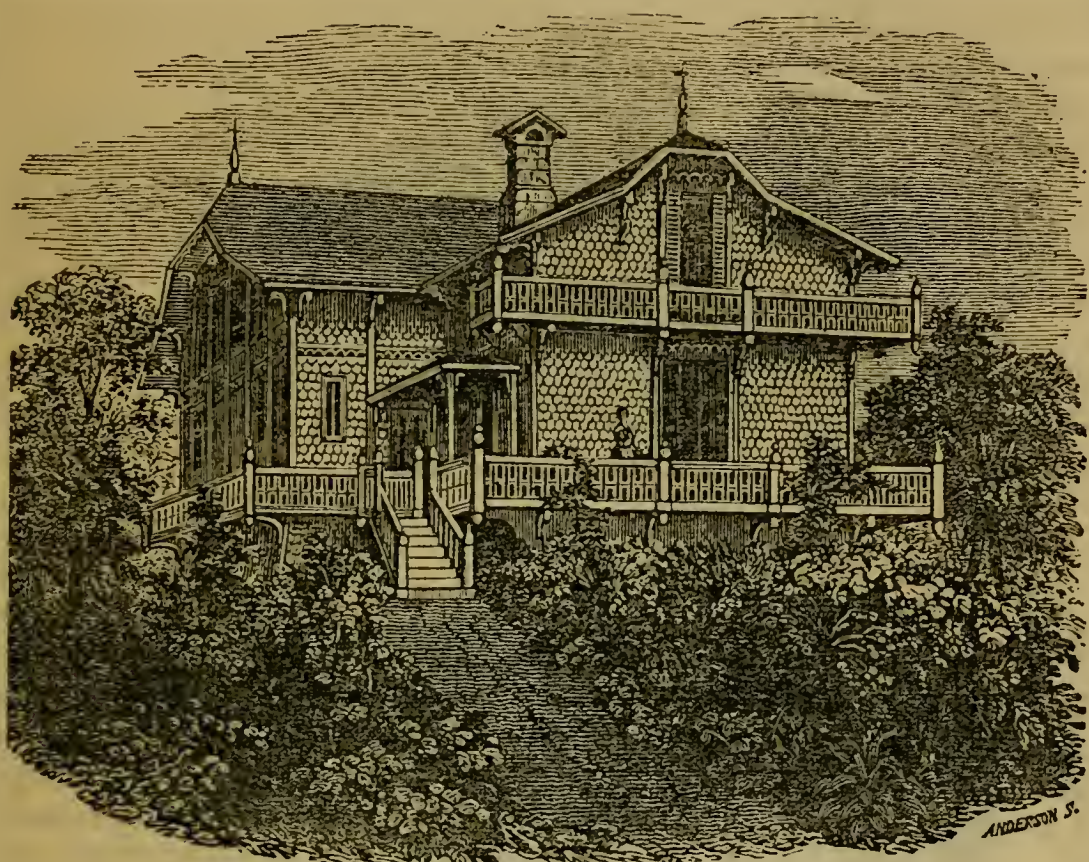


Fig. 42—SWISS SUBURBAN COTTAGE.

accords well with the hillside scenery where it stands.

The plan (fig. 43) shows that this was not intended for an ordinary farm house, but for a small suburban residence for a person doing business in the adjacent city. The second story has three bed-rooms. A cellar extends under the whole.

The external covering is shingles, cut to an ornamental pattern; the frame being first covered with rough boarding, on which is laid tar-paper, before the shingles were applied. Shingles form quite a durable outside, and the whole taken together makes a warm and dry house. It is well painted of a light drab color.

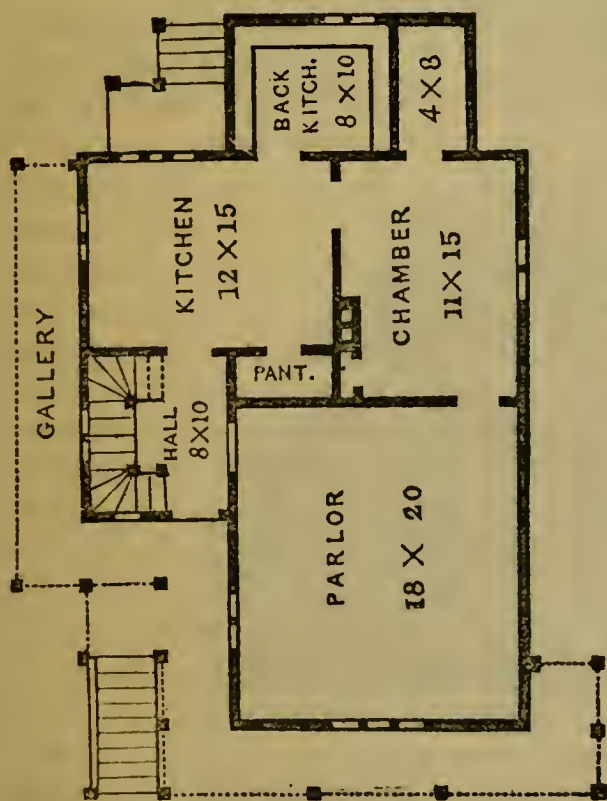


Fig. 43—PLAN OF SWISS COTTAGE.





Fig. 44—STONE COTTAGE.

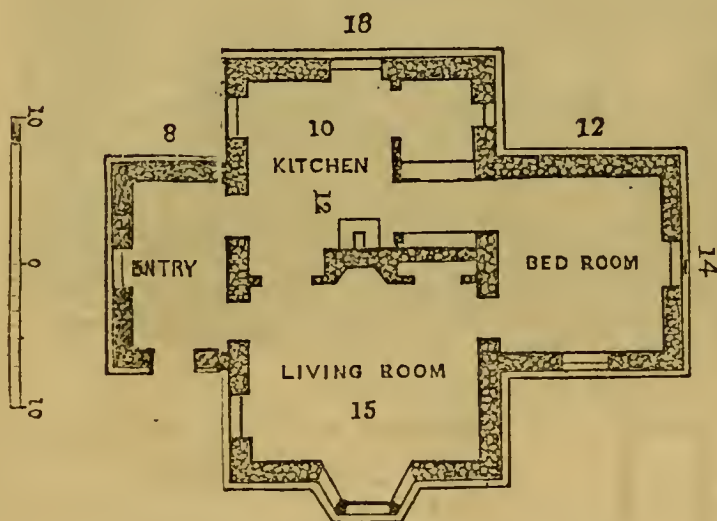


Fig. 45—PLAN OF STONE COTTAGE.

This is a neat cottage, for a small farmhouse, or for the better class of laborers' dwellings. It may be built of cobble stone or block stone for about four hundred dollars. The entry may be converted to an additional bed-room, by opening an entrance-door into the living-room at the side, next this wing.

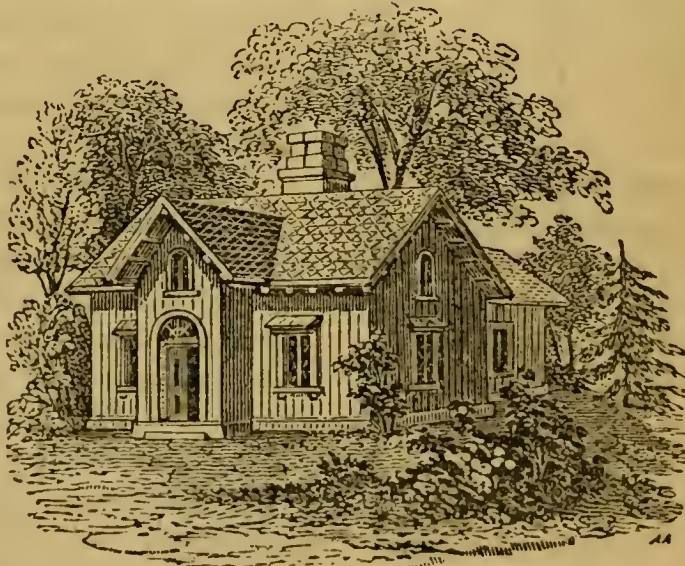


Fig. 46—A SMALL FARM HOUSE.

A correspondent has furnished the accompanying plan (fig. 47) of an improvement of the design on page 28 of the Register for 1855, the al-





Fig. 47—PLAN OF FARM HOUSE.

terations giving the two principal rooms a square instead of an octagonal form, by placing the closets between them instead of at the corners. The two small bed-rooms which flank the kitchen, afford important additional room at little increased cost. The perspective view of this house is repeated in order that the whole may be seen together.

Six or seven hundred dollars would build this dwelling, in a good and plain style, with the larger rooms 15 by 16 feet, and  $8\frac{1}{2}$  feet high.

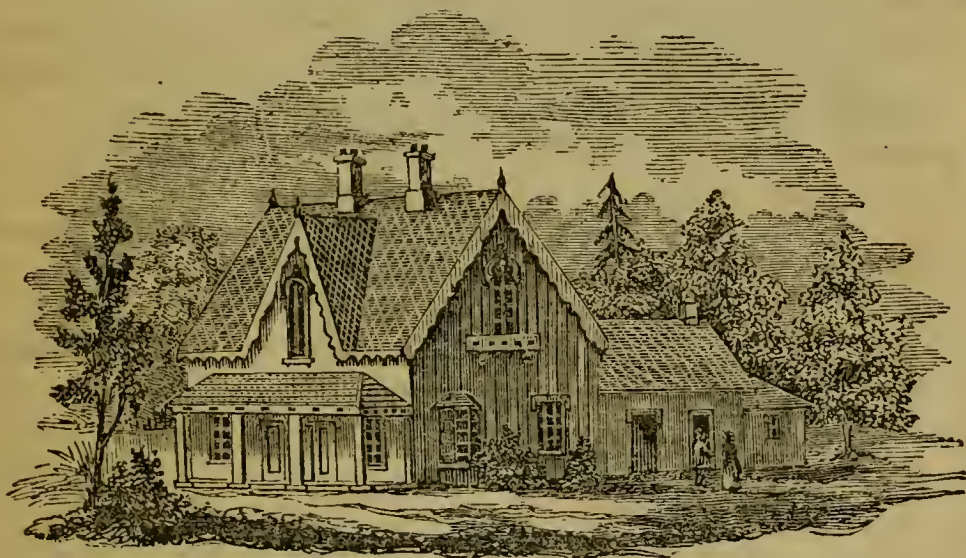


Fig. 48—A PLAIN HOUSE IN THE COTTAGE GOTHIC STYLE.

The accompanying design was furnished by a correspondent, with a request for the suggestion of improvements. The most obvious defect is the direct passing from without through single doors, into the parlor and library. This objectionable feature may be removed by converting the central portion of the veranda into an entry or vestibule, opening into these two apartments. It will constitute a good farm-house, and if built in a cheap substantial manner, with the lower apartments nine feet high, will cost about fifteen hundred dollars. The following is the description of the plan furnished by our correspondent :

Enclosed is the plan (figs. 49, 50) of a country house, lately drawn for a friend who is about to build, and who wants a house with four rooms and a kitchen on the first floor, and one story high.

A house built on this plan, would be both comfortable and convenient, and at the same time, as ornamental as a farmer who did not wish to be thought "freakish," would like to build in western Pennsylvania, where you will frequently see *fire walls*, or perhaps a roof extending over the gable just far enough to cover a three-quarter inch

"barge board," high grecian porticos, and chimneys invariably in the outside walls.

The main building will be 32 by 34 feet; the kitchen 12 by 16, with two porches 4 feet wide—the pantry and coal-house connected with the

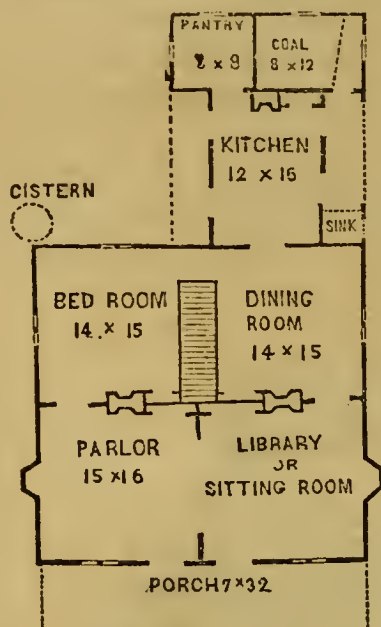


Fig. 49—FIRST FLOOR.

kitchen, will be 8 by 20 feet. There is a door opening out of the kitchen into the pantry, and from the porch into the coal-house.

The building will front the south-east, and from the bay window in the sitting-room, will be visible three-fourths of the farm; from the parlor bay will be seen part of the orchard and the shrubbery.

Each room is provided with one closet or wardrobe; the library with a permanent book-case. All the windows in the second story open on hinges; the one to the north-east into a

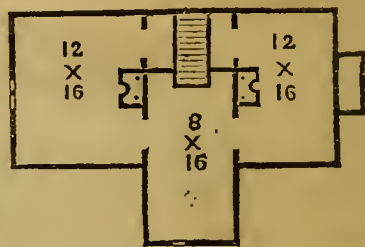


Fig. 50—SECOND FLOOR.

small balcony with light iron railing, 4 by 6 feet, which is sheltered by the roof, projecting over the wall two feet. The window at the opposite end has a railing attached to the outer edge of the wall, three feet high. The lower story, besides the dining-room, library, and parlor, contains one large bed-room. The second has two good bed-rooms, 12 by 16 feet, and if necessary, a bed could be placed in the middle room, which is 8 by 16 feet, extending to the front wall. The stories are each 10 feet high. The stairs ascend between the chamber and dining-room; the cellar stairs are under them. Every room except the middle one in the second story, is provided with a fire-place. The roof is steep, the apex being 16 feet from the second floor; this leaves room for a high ceiling in the upper bed-rooms, and for a small ventilating window at each end, above the ceiling, which permits a free circulation of air between the plastering and roof.

#### A CHEAP FARM HOUSE.

This plan (figs. 51, 52, 53) was furnished by a western correspondent, and is intended to combine as many of the common, every-day conveniences of a farmers' dwelling, in a well-arranged and compact form, as can be afforded for a given sum. The absence of a parlor will strike some eyes as an obvious deficiency; but for a farmer of moderate means, the less that is kept for show and the more for comfort and convenience, the better. A neighbor, who is a farmer of good means and superior intelligence, has reserved one room as a parlor—but it has been kept shut up as dead property, and to our certain knowledge, has been used but twice



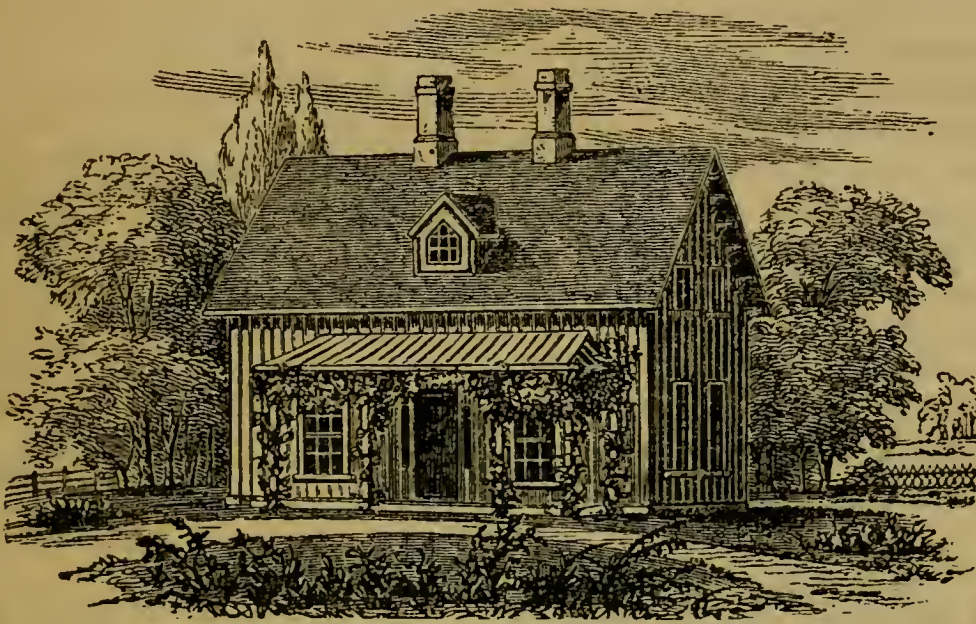


Fig. 51—A CHEAP FARM HOUSE.

in fifteen years,—once for a quilting party, and once for a wedding. The owner, to have more room, added in the first place a kitchen to his main building, so as to have a dining or living room, and “save” his parlor;

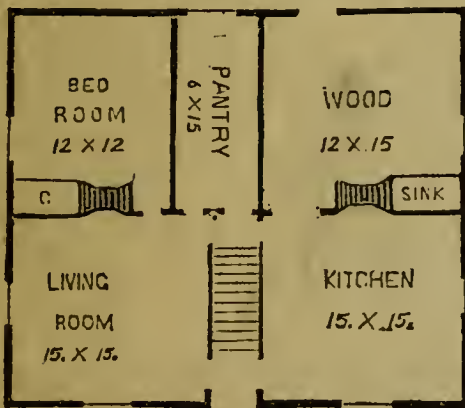


Fig. 52—GROUND PLAN—30 by 33 feet.

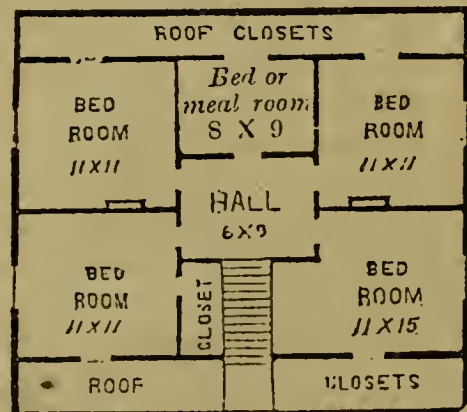


Fig. 53—SECOND FLOOR.

next, the kitchen was converted into a dining-room, and the wood-house was lathed and plastered for a kitchen; and several successive additions have been since made—the parlor remaining in solitary loneliness. Now, if this room, *kept for show, but never made visible*, with its furniture, cost \$500, then its use once in seven years must cost, with interest, decay, &c., about *four hundred dollars* for each occasion. At the same time there are some serious domestic inconveniences that might be remedied for a fourth part that sum, and some glaring exceptions to neatness outside, which a tenth part would remove.

These remarks are intended to apply only to *cheap* houses, where a limited expenditure of means should be applied first to procure such ac-



commodations as are in constant use, if convenience and show cannot be had at the same time.

The plans exhibit the whole arrangement. The wood-room is devoted to the storage of wood, after it has been cut ready for stove use. It will be observed that the wood-room, pantry, kitchen, and living-room, although sufficiently separated, are in near and convenient proximity, and that common household labors will be far more easily performed in such a house as this, than in some large establishments, where comparatively long journeys must be performed to pass from one apartment to another.

It is intended that the cistern pump discharge into the sink, and that the well be equally near at hand.

The cost of this house, with a variation in the cost of materials, and in finish, will be from nine to twelve hundred dollars.



Fig. 54—BRACKETED FARM HOUSE.

A comfortable, spacious, and symmetrical farm house, is represented in the view and plans here presented, the exterior of which originally appeared in one of Downing's books. It is one of the best of his many designs. The plan is mainly copied from Loudon. As it is a simple parallelogram, it may be cheaply built, and with little waste of material. The roof has no receding angles, and is therefore free from danger of leakages.

The entrance hall (fig. 55) opens to the parlor, living-room, and through



the back transverse passage to all the kitchen apartments, except the scullery, which may be a wash-room or back kitchen, and which is entered through the back door. Exactly opposite this back door, and in

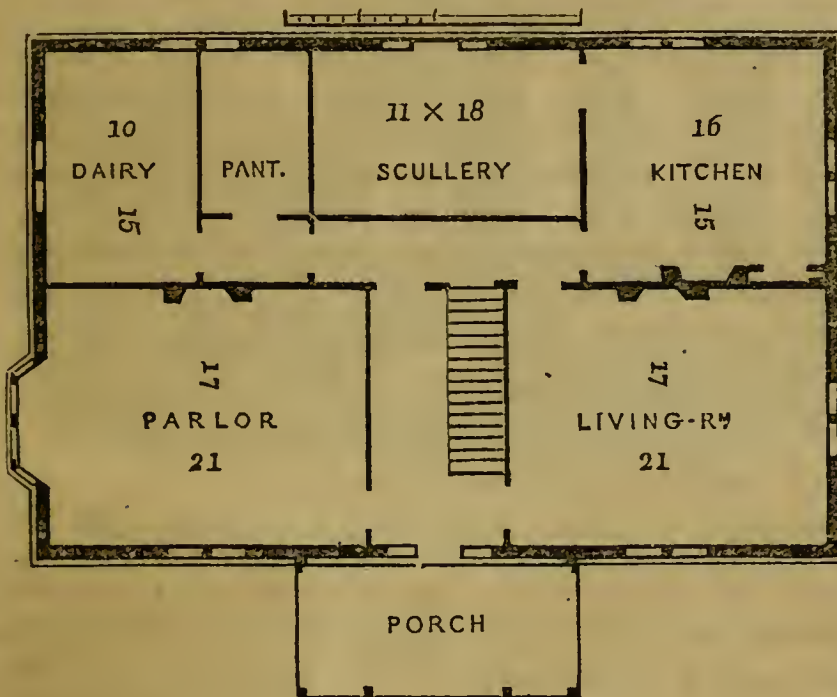


Fig. 55—PLAN OF PRINCIPAL FLOOR.

the inner partition of the scullery, a window should be placed for lighting the passage from the kitchen to the dairy. Those who prefer having the dairy in a separate building, may convert this apartment into a bed-room. In this case, the pantry may be converted into a milk-room, and a pantry taken off the

scullery. The position of these kitchen appendages is such as to afford unusual facilities for any modifications of this sort.

The second story (fig. 56) is divided into six bed-rooms of ample size, all of which are entered from the upper hall and passage. The steepness of the roof is sufficient to afford an ample garret, for the various purposes required by the farmer. If necessary, three or four bed-rooms for workmen may be finished off from it.

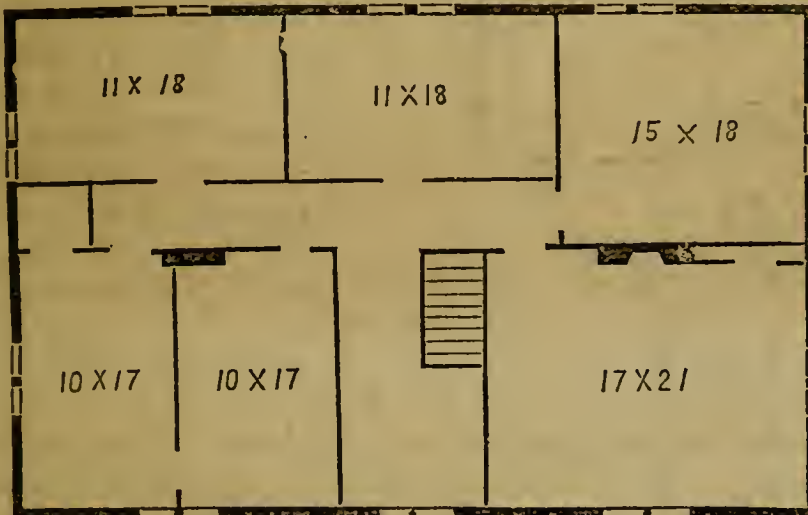


Fig. 56—PLAN OF SECOND FLOOR.

This house, built in the vertical boarding style as represented in the view, or with common horizontal clapboarding, which will cost the same, might be finished in a good substantial manner, filled in with brick, for \$1800 to \$2000.



Fig. 57—ITALIAN FARM HOUSE.

This design is intended to exhibit a dwelling expressive of an air of modest and refined neatness, free from any bold or prominent peculiarity of architecture. Its general air is that of the Italian style, presenting the varied outline and freedom from stiffness for which this mode

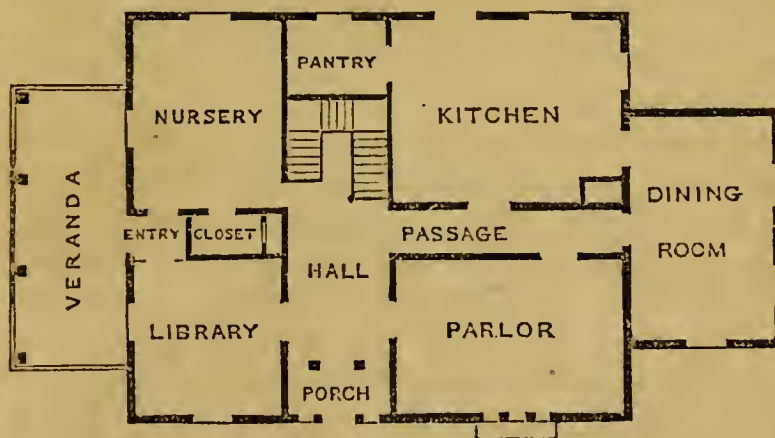


Fig. 58.

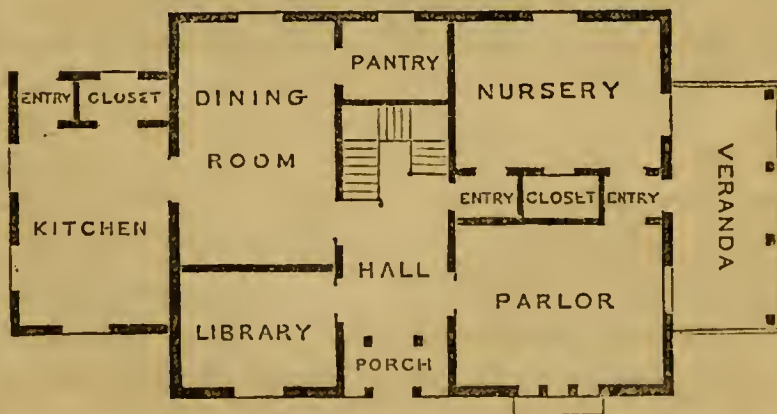


Fig. 59.

of building is distinguished, but without a rigid adherence to architectural rules. It is intended for an intellectual family in moderate or comfortable circumstances, and either as a farm or suburban residence. Without any attempt at costly ornament, it aims to give a tasteful exterior. A profusion of decoration, or as commonly termed, "gingerbread work," is one of the most common faults in our newer country dwellings, much oftener showing a want of architectural taste than its presence.



The simple elegance of a statue, with the plainest drapery, is infinitely more pleasing than if bedizzened with flashy ornaments, ribbons, poppies, and peacock feathers; and more taste may be shown in the form and proportions of a log dwelling, than Horace Walpole exhibited by his splendid erection at Strawberry Hill, which was in fact only a glittering jumble.

The plan (fig. 58) needs but little explanation. The library may be devoted to books, papers, objects of natural history, optical instruments, &c., and would form an interesting resort for the younger members of the family, or for the pursuit of their home studies; or it might be occupied as a business office. We have given modifications of the plan in the accompanying figures. In fig. 58, the nursery and library both open (through a small entry, so as to exclude the direct cold air of winter,) upon the veranda, that the children and young people may enjoy its full benefit. The dining-room, entered through the side passage, is freely accessible from both kitchen and parlor, and may be used as a snug, retired and comfortable living-room. For those who prefer a parlor opening on the veranda, the second plan (fig. 59) is given, the dining-room and veranda of fig. 58 being made to change places with each other, so that the nursery and parlor both open by means of an entry, upon the veranda—this mode of access through an entry being more secure from cold, and better adapted to a house of this character than windows opening as doors. If desired, the veranda may be replaced with two bed-rooms, for a larger or increasing family—a very common circumstance.

The plan of the second floor is not given, as it very nearly resembles, in its general form, the plan below. It may be made into six bed-rooms, by dividing the space over the kitchen in the first plan, and over the dining-room in the second, leaving the necessary passages for this purpose. Those who lodge hired men may prefer a separate stairway to the two back rooms, in which case narrow stairs may be placed at one side of the kitchen, directly under which the cellar-stairway may descend. The dairy occupies a separate room in the cellar, with a free access to pure fresh air. The roof over the hall only rises to the eaves of the side wall, thus avoiding the usual leakages of re-entering angles in roofs. As it is, however, more nearly horizontal than the rest, it should be covered with a metallic coating of the same color as the rest of the roof.

This house, built on a moderate scale, or with the four larger rooms about 15 by 17 feet, and 10 feet high, perfectly plain in its finish, may be completed for about eighteen hundred dollars. With larger rooms, more massive and durable walls, and higher finish, it might be made to cost three thousand to three thousand five hundred.

#### BATTENED COUNTRY HOUSE.

This is a spacious, convenient, and symmetrical design for a suburban residence or farm house of the better class, and is well adapted to pictu-

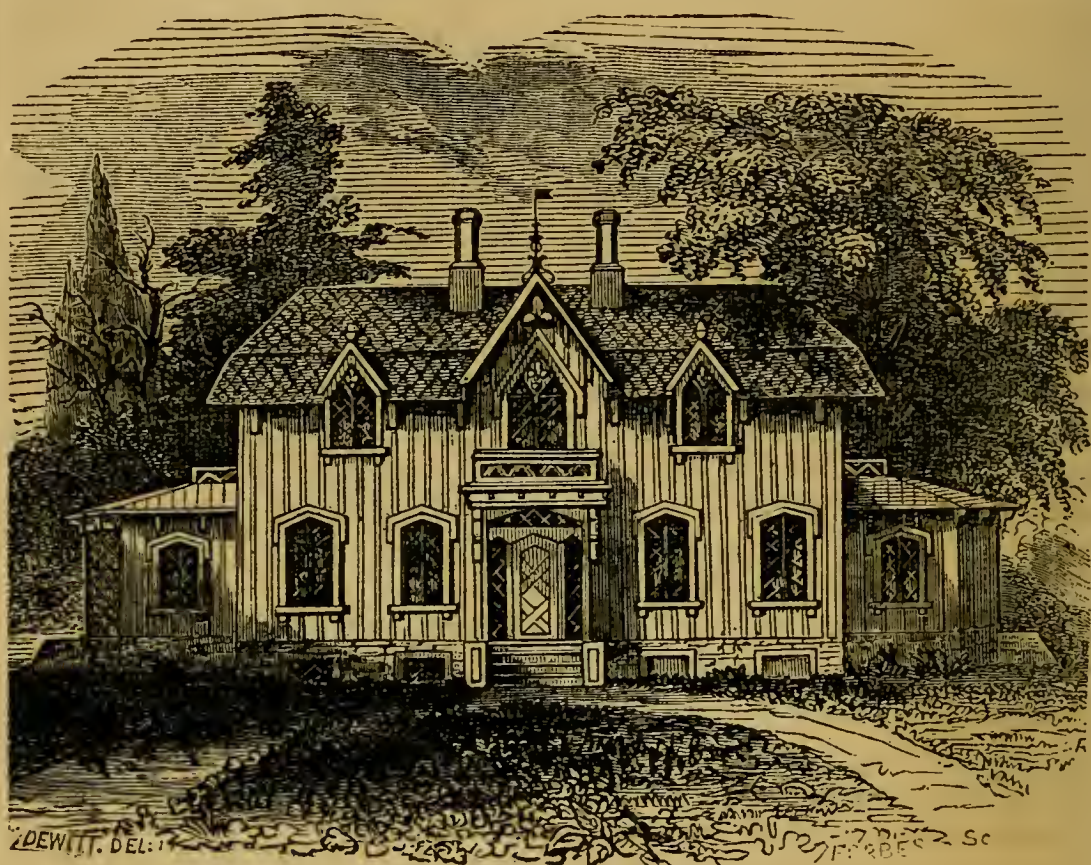


Fig. 60—BATTENED COUNTRY HOUSE.

resque scenery. The plan (fig. 61) is original; the view was designed some years ago by R. V. DE WITT, of Albany.

The entrance hall opens separately into the living-room, nursery, parlor, and library. The pantry, as should always be the case when it combines

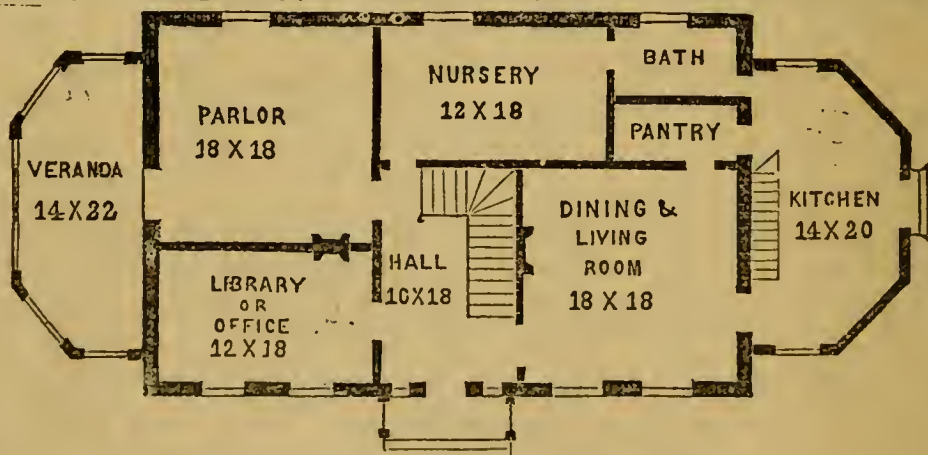


Fig. 61—PLAN OF BATTENED COUNTRY HOUSE.

china-closet and provision room, opens to both kitchen and dining-room—to the latter, by a slide or small door two feet square. The bath-room, being accessible to both nursery and kitchen, is in the most convenient position for the former, and may be readily supplied with warm water



from the latter. The small chimney for the kitchen stove, surmounted with one of Mott's ventilators, is omitted in the elevation or view.

By a slight alteration in the partition between the library and parlor, these two rooms may be varied to suit different wants and purposes. A living-room and parlor may be made of these, with folding doors, the chimney being omitted, and warmth imparted by means of a hot-air furnace. Or, the library may be converted to a bed-room; or, the partition may be moved back, so as to give the parlor in front, and leave room for a bed-room back, according to the nature of the exterior view, the best prospect being reserved for the parlor windows. In either case, it opens by a double door on the veranda.

The second floor is subdivided like the first, and may be made to form four or six bed-rooms, according to their size; and any desired amount



Fig. 62—ORNAMENTAL GATE.

of space may be devoted to closets, by separating the rooms by means of two partitions three feet apart, and forming two closets of this space, each opening to its appropriate room. A large closet for bedding may be left at the back end of the

upper hall. The space over the pantry and bath-room, and over the nursery, is devoted to bed-rooms entered by the kitchen stairs; and beneath these stairs is the entrance to the cellar.

The exterior walls of this house are wood, boarded vertically and battened, and rendered warm for winter and cool for summer, by brick filling. A better expression would be imparted by larger chimneys.

The cost of this house would be about \$2,200 to \$2,500.

AN ENTRANCE GATE, adapted to the expression of this house, is shown in fig. 62.

#### A GOTHIC MANSION.

This design of G. WHEELER, presents a neat, graceful, and elegant exterior of a mansion in the Tudor Gothic style, suited to the more wealthy class of country residents. It will be observed on comparing the view and plan, that the former is a side view, the entrance being at the right end of the figure, under the angular porch.

The plan (fig. 64) nearly explains itself. There is an unusually large provision for the entertainment of company, more than many will desire, but suited to the wants of others. The rooms, except the library and kitchen, are fourteen feet high, and large in proportion.

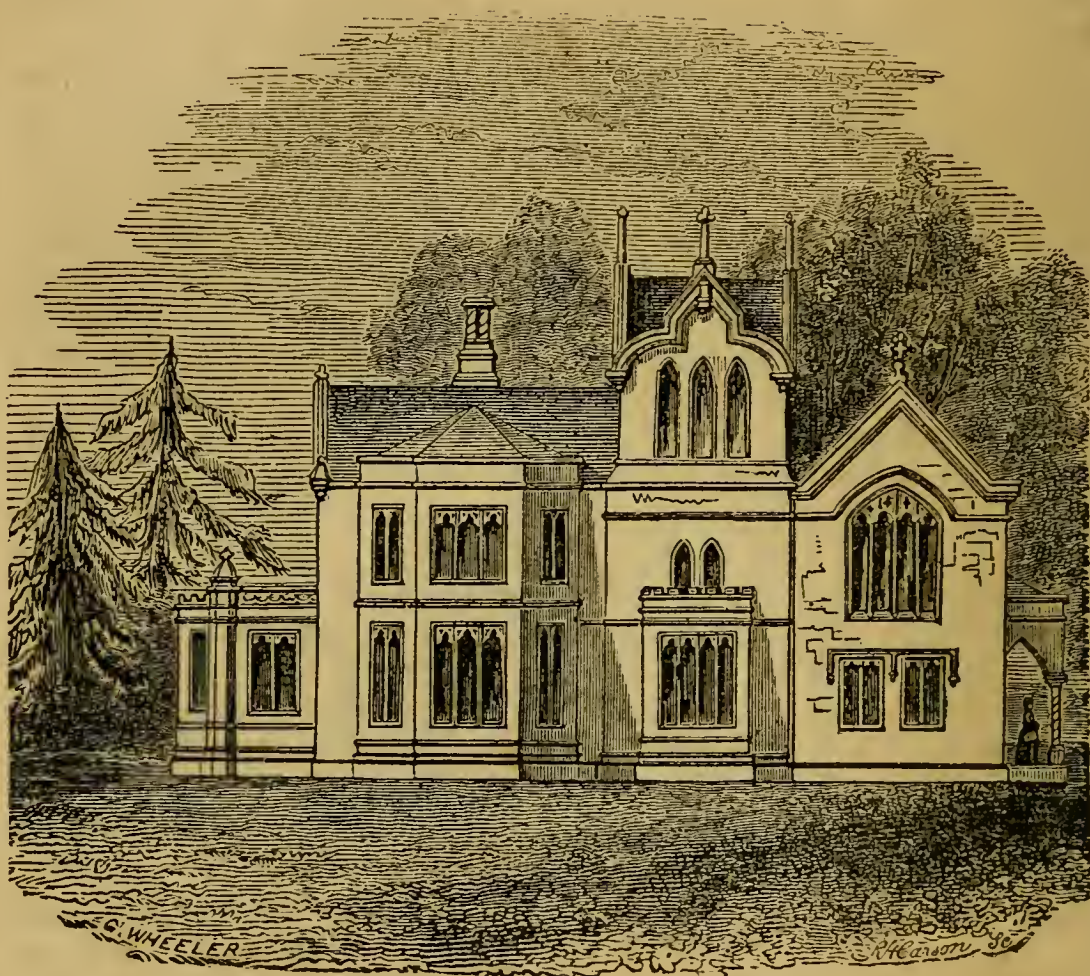


Fig. 63—GOTHIC MANSION.

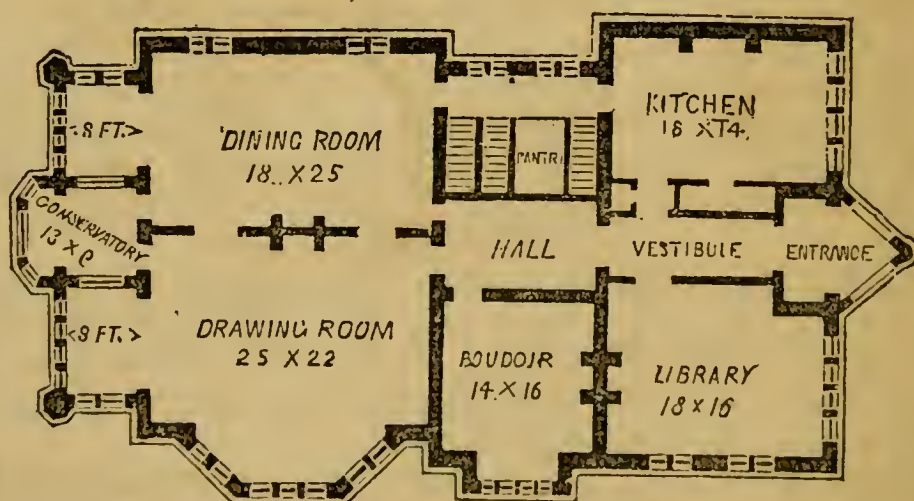


Fig. 64—PLAN OF GOTHIC MANSION.



## NOTES ON FRUITS.\*

### CULTURE OF FRUITS—FAMILIAR HINTS.

It is not necessary at the present time, when almost everybody is planting fruit trees, to go into a long argument to show its advantages. A continued and most convincing proof is furnished by the fruit itself,—whether it be from the single loaded plum or apricot tree in the pinched-up kitchen-yard of the townsman,—or the broad orchard bending under the myriads of delicious specimens on the spacious grounds of the farmer.

But an inquiry is made—much oftener than it is rightly answered—“how shall we manage our young trees, from the moment they are received from the nursery, so that they may speedily come into profitable bearing?”—or, “how long will my young trees have to grow before I shall get fruit from them?”

As the time required for their fruiting depends very greatly on their management; while the quality, even more than the amount yielded, is influenced by the treatment they receive, it is well worth some pains and labor to give them every advantage.

Is it not strange, that while every man knows so perfectly well that half-starved cattle cannot possibly thrive, so many expect young fruit



Fig. 65.

trees not only to thrive and grow, but to yield good crops, when not receiving even a tenth part of the attention that is bestowed on a half-neg-

\* For directions in relation to the Culture and Management of Fruits, see REGISTER for 1855—for careful and complete Descriptions of the Best Varieties, and an article on the Propagation and Pruning of the Grape, see REGISTER for 1856—for Suggestions on Laying Out and Planting Orchards, and on the Small Fruits, see REGISTER for 1857—while many other notes in connection with the subject will be found in all three of them.

lected herd of cattle? Crowded, in the first place, into small holes, dug into hard soil; and afterwards suffered to be overgrown and choked by weeds and grass, they are quite sure to refuse the injustice of repaying with a good crop such negligence, not to say utter starvation at the roots. It is not difficult to see plenty of just such trees, of the apple, for instance, in passing through some parts of the country, of which the accompanying portraits are tolerably fair representations—(fig. 65.) Now, it is nothing whatever but this neglect that has reduced them to such a condition; with good cultivation they might have been just such healthy, vigorous, handsome, prolific specimens as these below, (fig. 66,) which happily are becoming more and more common every succeeding year.

In reply to the inquiry as to the best treatment for trees—The first thing is to get a good soil. To set good trees on bad land, is like build-



Fig. 66.

ing a house without a foundation, or like sitting down to dine at empty dishes; there is nothing to support the growth of the tree—no food to supply it with proper nourishment. If, therefore, the soil is not already such as to yield a crop of sixty or seventy bushels of Indian corn per acre, it should be made so, if trees are expected to flourish in the finest manner. The first thing is to obtain sufficient *depth* of soil,—to enable the roots to extend themselves freely, and to hold moisture without drying up in protracted drouths. This may be obtained by digging very large holes, say eight feet in diameter, and a foot and a half deep, and filling them with rich earth. But a better way is to plow the whole surface to that depth, and to enrich it well by manuring. A common plow will descend six or seven inches; by passing another plow in the furrow, that is by trench-plowing, the soil may be loosened to ten inches or a foot. But by means of a good subsoil plow in the common furrow, a depth of fifteen to eighteen inches may be attained. Now, to work the manure down to that depth, and make the whole one broad deep bed of the richest soil, it must

ing a house without a foundation, or like sitting down to dine at empty dishes; there is nothing to support the growth of the tree—no food to supply it with proper nourishment. If, therefore, the soil is not already such as to yield a crop of sixty or seventy bushels of Indian corn per acre, it should be made so, if trees are expected to flourish in the finest manner. The



be first spread on the surface evenly after the whole has been well subsoiled, then harrowed to break it fine and mix it with the top soil, and then thrown down by a thorough trench-plowing. For although the trench-plowing can hardly be worked a foot in depth of itself, yet after a good loosening with the subsoil plow, it may be at once extended down a foot and a half. If this is done in the fall, and another good plowing given in spring, the whole will be in fine condition for the reception of trees. Does this seem like a great deal of cost and labor? It is the very cheapest way of getting fine crops of the best fruit, for the way in which strong, long, and healthy shoots will run up even the first year, will seem like nothing short of magic; and the short time in which such trees will begin to hang out their ruddy or golden treasures, and the size, beauty, and richness of the fruit afforded from such an orchard, kept well cultivated during its early years, will astonish those who have never seen any but slip-shod culture.

After a tree is well set out in such an admirably prepared soil, the subsequent treatment, although of the greatest importance, is very simple. It consists merely in keeping the soil mellow, by repeated stirring, and preventing the growth of any vegetable for several feet from the tree, whether it be weeds or the growth of a crop. A *hoed* crop is however admissible, as being next best to clear mellow ground, because most of the surface is still kept well stirred during the operation of tillage. A *sowed* crop, grass, or weeds, is ruinous to young trees.

These hints, we are aware, are not new to many; but it is often better to repeat an old and important truth, till all practice it, than to search only for what is new.

**SPROUTS ABOUT FRUIT TREES.**—These often become troublesome and unsightly. It is a common practice to cut them off at the surface of the ground. But this leaves many dead stumps, and the sprouts soon spring up again. The best time is to remove them early in summer, when they will be less likely to grow again; and if they are not too large, they may be pulled off with the hands, assisted by one foot (in a thick boot,) placed between the sprout and tree. If they are too large, or too low down, to be taken off in this way, then the earth must be scraped away so that they may be cut off closely to the tree.

**RE-GRAFTING OLD TREES.**—The late GEORGE OLMSTED of Hartford, Ct., was very successful in grafting new tops into old trees. His rule was always to begin at the top and graft one-third of the tree in each year—three years being thus required to complete the entire head. By grafting at the top first, the grafts are not shaded by the remaining branches; while the necessary reduction throws the sap into the remaining side limbs, and gives them vigor for grafting the next year. A tree *seventy-five years old*, was successfully treated in this way. The fourth year afterwards it bore 10 bushels of apples; the fifth year 8, and the sixth 28½.

## THE GRAPE.

THE BEST HARDY GRAPES.—This rapidly-growing, quick-bearing, delicious fruit, is every year attracting increased attention. The hardy varieties are especially inquired for. Among these, the following are the best. The *Isabella* and *Catawba*, widely-cultivated and well-known sorts. Neither of them ripen well ordinarily at the extreme north. Unless *fully* ripe they are not themselves. The bunch of a well-ripened *Isabella* breaks easily from the vine, almost with a touch. The *Diana* is much smaller than either, copper-colored or pink, two weeks earlier than the *Isabella*,

and of a delicate, sweet and excellent flavor. The *Concord* ripens about the same time as the *Diana*, is large and showy, nearly black, and of a good, but not of the best flavor. The *York Madeira* is much like the *Isabella*, but less musky and with less pulp, smaller, and a few days earlier. The *Clinton* is two weeks earlier than the *Isabella*, the bunches and berries are small, the flavor rather acid, but the vines are very hardy, of vigorous growth, and productive. The *Delaware* is a small, brown, and excellent grape, ripens nearly with the *Isabella*, and is hardy. The *Rebecca* grape (fig. 67) is quite new, but promises high value; its color "white" like that of the *Sweetwater*, and its flavor very fine; the vine has proved quite hardy. Both the two last have much of the delicacy of the exotic sorts.

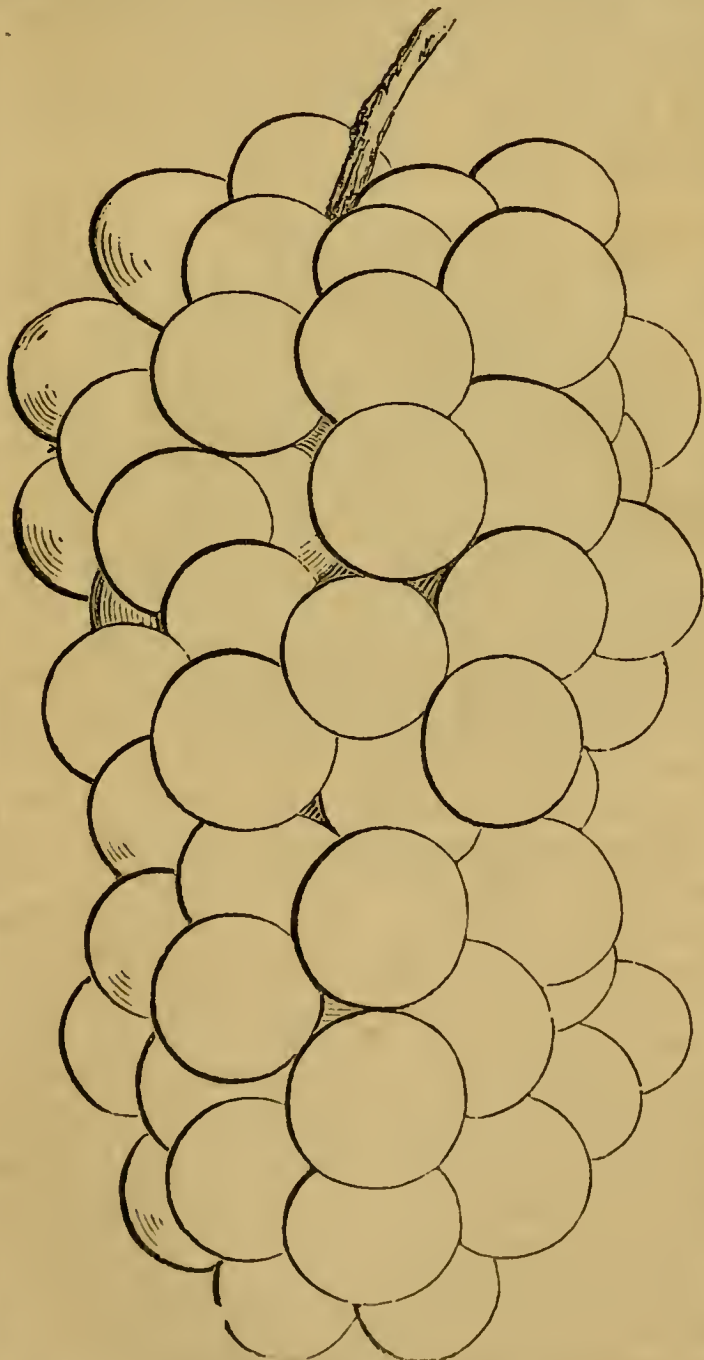


Fig. 67—THE REBECCA GRAPE.



**KEEPING GRAPES.**—A new method of keeping grapes in winter has been adopted to some extent in France, consisting essentially in hanging up the bunches separately *by the smaller end*, on wire hooks. Small

wires, of sufficient stiffness, and a few inches in length, are bent into hooks in the shape of the letter S; one end is passed into the smaller end of the bunch, and the other placed upon a suspended hoop, as shown in fig. 68. The position of the bunches causes every berry to *hang away from its neighbor*, and consequently they are less liable to rot by contact, than by any other arrangement.

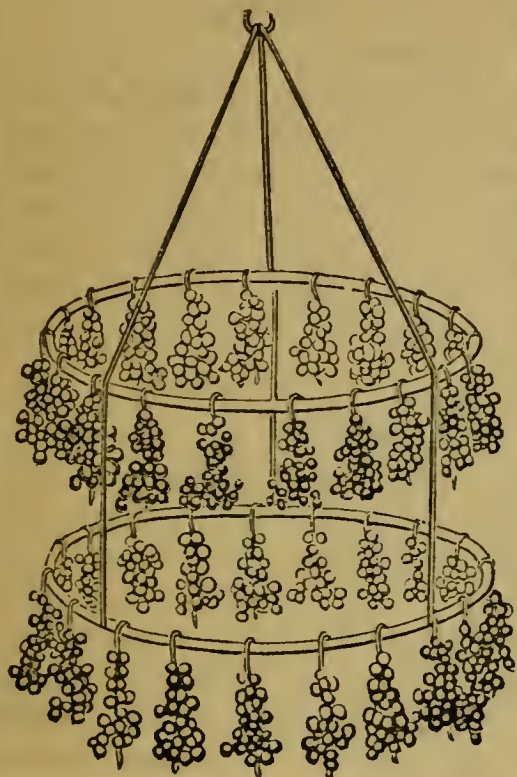


Fig. 68.

The hoops are suspended by three cords or wires to a button overhead, like the hook of a baby-jumper; and any convenient number of hoops may be hung successively under the first. The center of the fruit-room may be thus occupied; and the walls may be covered by passing horizontal wires around the walls, and about a foot from them, to receive the hoops for the suspension of the bunches.

This will be found much more perfect than the more common practice of keeping grapes upon shelves or in drawers. It is hardly requisite to remind those accustomed to the successful keeping of grapes, of the necessity of careful picking, the removal of imperfect or decayed berries, and of avoiding too much moisture in the fruit-room on the one hand, and of such a degree of dryness on the other as to cause wilting. The necessity of excluding frost is of course obvious.

**GRAPES AROUND BOSTON.**—Some years since the product of exotic grapes, in glass grape-houses, within ten miles of Boston, was estimated at *forty tons* yearly, and of late years great additions have been made.

#### THE CURRANT.

**VARIETIES OF THE CURRANT.**—The old red and white currants, if well cultivated and pruned of old wood, so that new wood may constantly spring up and bear, will be five times as large as on neglected old bushes, and are good sorts. The *Red* and *White Dutch*, generally regarded the best on the whole, are much like these old ones, except that the bunches are much longer. The *Cherry* currant (fig. 69) is the largest red currant, about half an inch in diameter, is often a moderate bearer, sometimes a great bearer, and the bunches are short. The *White Grape* (fig. 70) is

the largest white currant, being nearly half an inch in diameter if well cultivated, with long bunches, and excellent flavor. The *Victoria*, a late,



Fig. 69—CHERRY CURRANT.



Fig. 70—WHITE GRAPE CURRANT.



Fig. 71.

acid sort, has long bunches, and red berries. *Knight's Sweet Red*, is a tolerably good sort, called *sweet* because more insipid than most others. The *Black English* is well known for its high scent and musky flavor, liked by some, and much disliked by most. The *Black Naples* is like it, but larger and better.

**EFFECT OF CULTIVATION.**—The remarkable hardiness and productiveness of this truly valuable fruit, have induced most land-owners to neglect wholly all care and culture of the bushes. In order to exhibit clearly the difference between good and bad management, we annex exact representations (fig. 71) of the size of the fruit, taken from two different bushes of the common red currant in the same gar-



den. The smaller bunch was taken from the old mass of bushes, growing thickly, stunted, and without pruning or culture. The larger was from a small, vigorous, and well cultivated bush in rich ground. The difference in size, should satisfy every one of the great loss sustained by a want of culture and attention.

THE CURRANT, AS A "BUSH" AND "TREE."—It is often recommended to train the currant into the *tree* form, or with a clean stem a foot high before branching. With good pruning and rich culture, this will make far better crops than old, neglected, brush-like, grass-grown bushes. But they do still better, if equally well cultivated, without the single naked stem, and with shoots springing from the ground. They must have all wood older than three years cut out, and an even, well-distributed top of strong and thrifty branches.

### THE APPLE.

APPLES FOR COOKING.—The two apples generally regarded best for stewing, are the *Fall Pippin* for autumn, and the *Rhode Island Greening* for winter. There are two others better,—namely, *Comstock's Garden Apple* for autumn stewing, and the *Esopus Spitzenburgh* for winter. The former, without sugar, was found quite equal to the *Fall Pippin*, with a moderate sweetening. It is worthless as an eating apple, being always hard. (It was described a few years ago in the *Cultivator*.) The *Spitzenburgh* is unequalled for richness and high flavor. The *Red Astrachan* is an admirable early summer stewing apple, but requires much sugar; the *Keswick Codlin* is the best immediately following it. For BAKING, the *Sweet Bough* is best for summer, *Pound Sweet* for autumn and early winter, and *Tallman Sweeting* for winter, the latter standing unrivalled among all baking apples, for its honied sweetness.

MOLASSES FROM APPLES.—J. Macomber, of Farmington, N. Y., manufactures molasses from sweet apples, incomparably better than by boiling down "sweet cider" so commonly practiced, by first *steaming* the apples soft, then pressing out the juice and boiling down. The juice thus yields a liberal quantity, but the precise amount he has omitted to determine.

A PRODUCTIVE YOUNG ORCHARD.—The following fact, stated by Benjamin Hodge of Buffalo, at the winter meeting of the Fruit Growers' Society of Western New-York in 1857, shows the effect of good management and excellent cultivation. In 1848, he sold a gentleman a hundred apple trees, mostly Baldwins and Greenings. In 1855, he picked from them 120 barrels of apples. Many of the Baldwin trees bore three barrels each.

### THE PEAR.

FIRE-BLIGHT IN PEARS.—There are two remedies for the fire-blight—both taken together will maintain any pear orchard undiminished. The first is the well-known remedy of cutting away the diseased parts—doing it promptly and continually, and two or three feet below the black-

ened portions. This will save many trees. Where the trees die in spite of this treatment, then adopt the other remedy, proposed by P. Barry, namely, whenever one tree dies, plant out two more. It is only occasionally, and often but a single year in many, that the fire-blight is extensively prevalent.

**TWO-HUNDRED-DOLLAR TREES.**—The writer knows many instances where old trees of the Virgalieu or Doyenne pear, have yielded on an average of years, for a long period, not less than thirty dollars per annum—some years they yielded much more. What then would be the actual value of such trees? Should they continue perpetually, their value would of course be a principal of which thirty dollars is the interest; but although they have borne perhaps thirty years, and may yet much longer, they must some time perish. Calling them, therefore, half that amount, they will be worth two hundred dollars each. Some of them, we know, have already yielded much more than two hundred dollars. Doubtless there are several other varieties of the pear, when known and tried, which will prove equally profitable.

**RIPENING WINTER PEARS.**—The recent experiments of cultivators are establishing the fact, that the great secret of the successful ripening of winter pears, consists in *growing* them well. *Well-grown* specimens of the Easter Beurre, Lawrence, and Winkfield, have been kept in barrels in a cellar and have ripened perfectly. At the winter meeting of the Fruit Growers' Society of Western New-York, in 1857, P. Barry presented a fine dish of Easter Beurre pears, taken a day or two before from the barrel in which they had been kept, and they were found to be excellent. Their good qualities had been *fully developed on the tree*.

### THE CURCULIO ON THE PLUM.

**CATCHING CURCULIOS.**—The most effectual means of destroying the Curculio, is to combine the "pig-and-poultry" remedy, and the *jarring*



Fig. 72.

mode. Let pigs and poultry pick up all the wormy fruit that falls; and let all the egg-laying insects be destroyed by jarring down. To make the latter easy and expeditious, make light square frames of bamboo or lath, and cover them with white muslin. Each piece of muslin is attached to two square frames, so as to fold together like a port-folio or

book. These are spread under the tree, as shown in the cut, (fig. 72,) an



axe or hammer is struck sharply against the *sawed stump* of a limb, and the frames being folded, throw the insects together, and they may be then emptied into hot water. *Shaking* the tree will not do—it must be jarred sharply—and not a day must be omitted. One man will carry two frames and do the work rapidly.

**THE CURCULIO.**—Ellwanger & Barry destroy this insect by beating the ground hard and smooth, and then daily sweeping up the fallen wormy fruit and destroying it. This is similar in effect to consuming the fallen fruit by turning in swine and poultry. Their success is so complete that in last year (1856) they had *ninety-three* distinct varieties of plums in bearing, many of the trees heavily loaded, while others adjacent bore none.

### PRUNING AND GRAFTING SHEARS.

Good treatment of fruit trees is always promoted by convenient tools; and the excuses for negligence are lessened with every facility for their proper management. For many of the operations of pruning, shortening—in peaches, &c., where branches not over an inch in diameter are to be cut off, the hand-shears will be found exceedingly convenient, and do the work with thrice the rapidity of the knife.

These are usually made as shown in the annexed figure, (fig. 73) and their great power depends upon the “draw-cut,” or sawing motion im-

parted to the blade by their peculiar construction. The principal cutting blade has a movable center, so that when the handles are pressed together, the connecting bar *a* draws this blade downwards, giving it a compound motion, and increasing its power many fold over

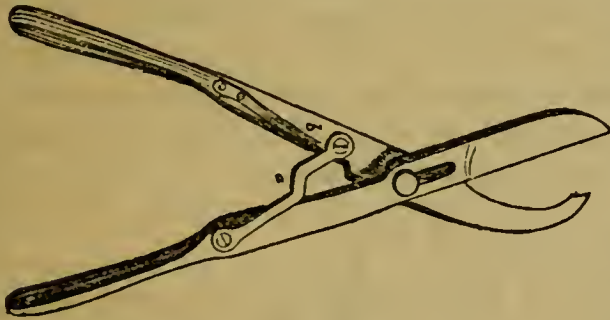


Fig. 73.

the simple cutting movement of a pair of scissors. The spring *b* serves to throw the shears open when not under the pressure of the hand.

This instrument has been known among gardeners for many years. A much simpler mode of obtaining the full power of this *draw-cut*, more

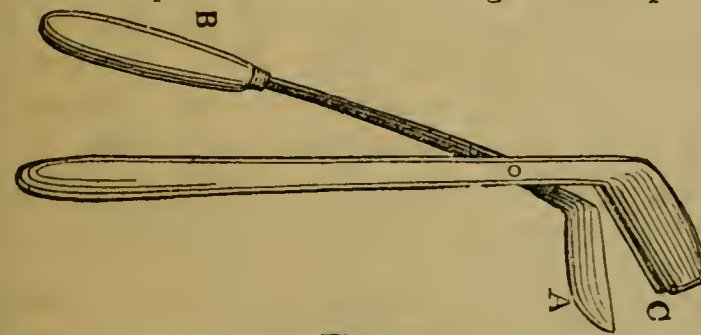


Fig. 74.

above figure (fig. 74) represents this instrument as used for grafting.

especially as applied to cutting off and slitting stocks for grafting, was described some years since in the “Fruit Culturist.” It may, however, be applied with equal advantage to any kind of shears for pruning. The

The thin blade A, two or three inches long, is set at an angle with the handle B, of about a hundred and twenty degrees, and for this very reason, when the shears are closing, the blade makes a draw-cut towards the concave bed C, which is placed against the stock to be cut. A tree an



Fig. 75.

inch in diameter is clipped square off by this tool, with as much ease as a jack-knife will clip a carrot. This grafting instrument may be at once transformed into shears for pruning, by substituting for the bed-piece C, another and blunter blade—(fig. 75.)

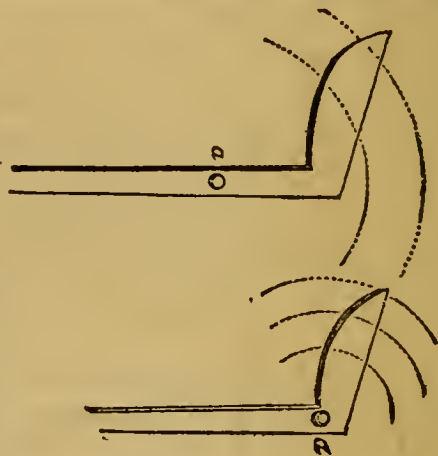


Fig. 76.

In order to make the principle of the working part of this instrument more clearly understood, we annex two simple figures, (fig. 76,) the one representing the objectionable mode sometimes adopted, of placing the pivot at the angle in the blade, the dotted lines (which are nothing more than circles described around the pivot *a* as a center,) clearly showing that this blade cuts only at right angles, and consequently does not possess the power of the other blade, where the pivot being placed below the angle, the cut is made obliquely,—it has the *draw-cut*.

### FRUIT LADDERS.

Convenient fruit-ladders greatly facilitate the gathering of fruit, prevent its becoming bruised, and save it from mutilation by chafing. A

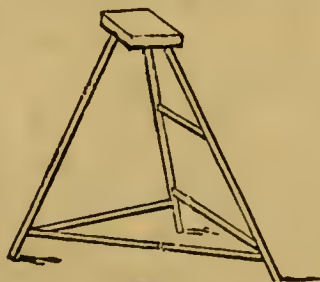


Fig. 77.

very simple, cheap, and convenient self-sustaining ladder, is represented in fig. 77, the legs and cross-rods of which may be about the size of, or slightly larger than those of a common chair. The small plank platform at the top may be six by nine inches. The whole may be about three feet high, and will be nearly as light as an ordinary chair, and it will be found extremely useful among the smaller trees, or for the lower parts of full-grown ones.

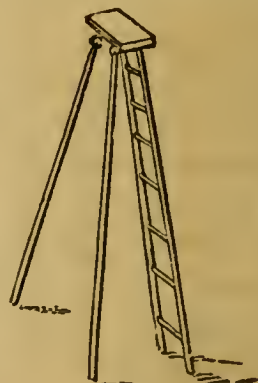


Fig. 78.

The form represented in fig. 78, having two folding legs, like those of a tripod, turning on joints, may be from 6 to 10 feet high.

An improvement of the latter has been made by continuing the two



sides of the ladder to a point, *a*, fig. 79, which the more readily enables the operator to thrust it up among the branches, and often enables him to support himself by holding to it. The legs turn at the hinges, *b*, and may be folded up to the ladder when not in use, as in the preceding instance.

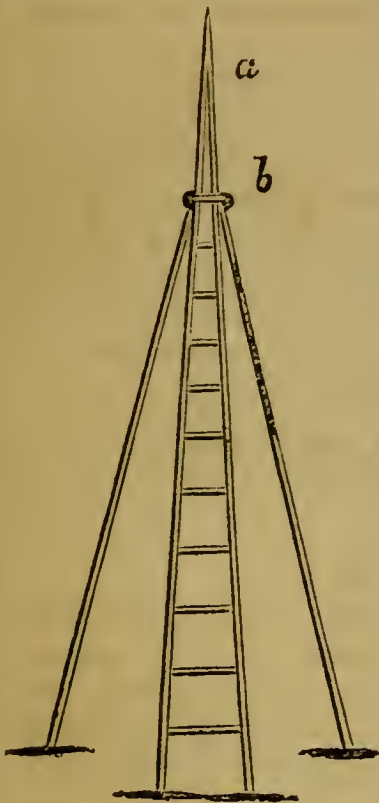


Fig. 79.

The *Orchardist's Crook*, (fig. 80,) consists of a light rod, with an iron hook at one end, and a piece of wood made to slide along it. It enables the operator to draw down the flexible branches of fruit trees within his reach, and retain them there while the fruit is picked from them. In using it, the operator draws down the end of the branch with the hook, and fastens it by the sliding piece to another branch below. The slider passes freely along the rod when not in use, but ceases to slide by the friction of the side-strain, when fastened to the branch.

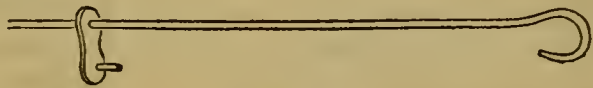


Fig. 80.

The *Folding Ladder* may be closed together with the facility of a pair of compasses; it then becomes a round stick, easily carried in one hand. It is made of strong light wood, and its construction may be readily understood by figure 81, representing the ladder as

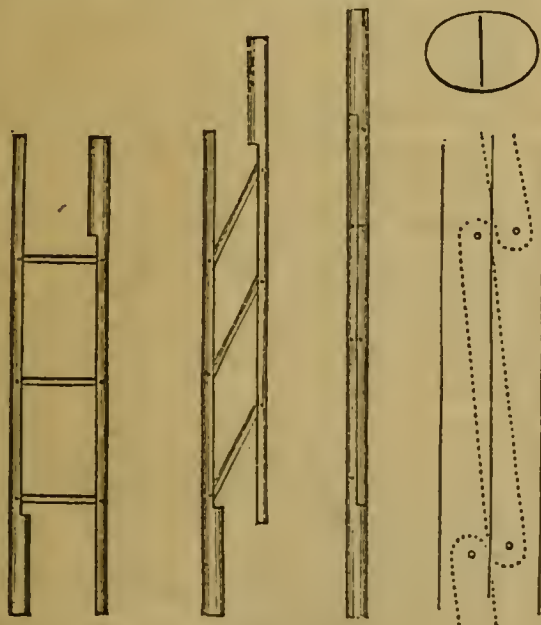


Fig. 81.

open, as half-closed, and as closely shut. An enlarged longitudinal section shows the manner in which the rounds lie in the grooves or concave beds in the sides or styles; above which is a cross-section exhibiting the semi-oval form of the styles. The ends of the rounds turn on iron pins, slightly riveted outside. The rounds resting on shoulders, when the ladder is opened, render the whole stiff and firm. A ladder of this construction is found very useful, not only in fruit-houses, where a common ladder could not be conveniently carried, but in pruning standard trees,

because it can be thrust through the branches like a round pole, without the least difficulty, and when once there it is easily opened.

## LIST OF THE BEST FRUITS.

The following list of the best sorts of fruits, has been adopted at the several sessions of the American Pomological Society, and is perhaps as perfect a selection as could be made for general application. But different cultivators, in particular localities, will perhaps prefer leaving out some of them and adding others which experience may prove better adapted to those localities. No two persons would make the same selections throughout, and the list may therefore be modified to suit all.

### APPLES.

#### FOR GENERAL CULTIVATION.

American Summer Pearmain,  
Baldwin,  
Benoni,  
Bullock's Pippin,  
Danvers Winter Sweet,  
Early Harvest,  
Early Strawberry,  
Fall Pippin,  
Fameuse,  
Gravenstein,  
Hawley,  
High Top Sweeting,  
Hubbardston Nonesuch,  
Lady Apple,  
Ladies Sweet,  
Large Yellow Bough,  
Melon,  
Minister,  
Porter,  
Primate,  
Rambo,  
Red Astrachan,  
Rhode Island Greening,  
Roxbury Russet,  
Summer Rose,  
Swaar,  
Vandervere,  
William's Favorite, (except for  
light soils,)  
Wine Apple, or Hays,  
Winesap.

#### FOR NOTHERN LOCALITIES.

Ribston Pippin.

### VARIETIES WHICH PROMISE WELL.

Autumn Bough,  
Broadwell,  
Coggsell,  
Carolina June,  
Fornwalder,  
Genesee Chief,  
Jonathan,  
Jeffries,  
King of Tompkins County,  
Ladies' Sweet,  
Monmouth Pippin,  
Mother,  
Primate,  
Smith's Cider,  
Smoke House,  
Wagener,  
Winter Sweet Paradise,  
Winthrop Greening or Lincoln Pip.

#### FOR PARTICULAR LOCALITIES.

Canada Red,  
Æsopus Spitzenburgh,  
Newtown Pippin,  
Northern Spy,  
Yellow Bellflower.

#### FOR GARDENS.

Garden Royal.

### PEARS.

#### FOR GENERAL CULTIVATION.

Ananas d'Ete,  
Andrews,  
Belle Lucrative, or Fondante d'  
Automne,  
Beurre d'Anjou,



Beurre d'Aremberg,  
 Beurre Diel,  
 Beurre Bosc,  
 Beurre St. Nicholas,  
 Bloodgood,  
 Buffum,  
 Dearborn's Seedling,  
 Doyenne d'Ete,  
 Doyenne Boussock,  
 Flemish Beauty,  
 Fulton,  
 Golden Beurre of Bilboa,  
 Howell,  
 Lawrence,  
 Louise Bonne de Jersey,  
 Madeleine,  
 Manning's Elizabeth,  
 Paradise d'Automne,  
 Rostiezer,  
 Seckel,  
 Sheldon,  
 Tyson,  
 Urbaniste,  
 Uvedale's St. Germain (for baking),  
 Vicar of Winkfield,  
 Williams' Bon Chretien or Bartlett,  
 Winter Nelis.

## FOR CULTIVATION ON QUINCE STOCKS.

Belle Lucrative,  
 Beurre d'Amalis,  
 Beurre d'Anjou,  
 Beurre Diel,  
 Catillac,  
 Duchesse d'Angouleme,  
 Easter Beurre,  
 Figue d'Alencon,  
 Glout Morceau,  
 Long Green of Cox,.  
 Louise Bonne de Jersey,  
 Napoleon,  
 Nouveau Poiteau,  
 Rostiezer,  
 Beurre Langelier,  
 Soldat Laboureur,  
 St. Michael Archange,  
 Urbaniste,  
 Uvedale's St. Germain, or Belle Angevine, (for baking.)  
 Vicar of Winkfield,  
 White Doyenne.

## VARIETIES WHICH PROMISE WELL.

Adams,  
 Alpha,  
 Beurre d'Albret,  
 Beurre Clairgeau,  
 Beurre Giffard,  
 Beurre Kennes,  
 Beurre Langelier,  
 Beurre Nantais,  
 Beurre Sterckman,  
 Beurre Superfin,  
 Brande's St. Germain,  
 Brandywine,  
 Chancellor,  
 Charles Van Hooghten,  
 Collins,  
 Comte de Flanders,  
 Conseiller de la Cour,  
 Comtesse d'Alost,  
 Delices d'Hardenpont d'Belgique,  
 Delices d'Hardenpont d'Angers,  
 Doyenne d'Alencon,  
 Dix,  
 Doyenne Goubault,  
 Duchesse d'Orleans,  
 Duchesse de Berri d'Ete,  
 Emile d'Heyst,  
 Epine Dumas,  
 Fondante de Comice,  
 Fondante de Charneuse,  
 Fondante de Malines,  
 Fondante de Noel,  
 Hosen Schenk,  
 Jalousie de Fontenay Vendee,  
 Kingsessing,  
 Kirtland,  
 Limon,  
 Lodge (of Penn.),  
 Niles,  
 Nouveau Poiteau,  
 Onondaga,  
 Osband's Summer,  
 Ott,  
 Philadelphia,  
 Pius IX.,  
 Pratt,  
 Rouselette d'Esperen,  
 St. Michael Archange,  
 Steven's Genesee,  
 Striped Madeleine,  
 Theodore Van Mons,

Van Assene, or Van Assche,  
Walker,  
Zepherine Gregoire.

FOR PARTICULAR LOCALITIES.  
Grey Doyenne,  
White Doyenne.

### PLUMS.

FOR GENERAL CULTIVATION.  
Bleeker's Gage,  
Coe's Golden Drop,  
Green Gage,  
Jefferson,  
Lawrence's Favorite  
Lombard,  
Monroe,  
Purple Favorite,  
Prince's Yellow Gage,  
Purple Gage,  
Reine Claude de Bavay,  
Smith's Orleans,  
Washington,  
McLaughlin.

#### VARIETIES WHICH PROMISE WELL.

Bradshaw,  
Duane's Purple,  
Fellenberg,  
General Hand,  
German Prune,  
Ives' Washington Seedling,  
Munroe,  
Pond's Seedling,  
Rivers' Favorite.  
St. Martin's Quetche,  
White Damson.

FOR PARTICULAR LOCALITIES.  
Imperial Gage.

### CHERRIES

FOR GENERAL CULTIVATION.  
Belle d'Orleans,  
Belle Magnifique,  
Black Eagle,  
Black Tartarian,  
Downer's Late,  
Coe's Transparent  
Early Purple Guigne,  
Governor Wood,  
Elton,  
Early Richmond, (for cooking,)  
Graffion or Bigarreau,

Knight's Early Black,  
May Duke,  
Reine Hortense.

VARIETIES WHICH PROMISE WELL.  
American Amber,  
Bigarreau Monstreuse de Mezel,  
Black Hawk,  
Great Bigarreau of Downing,  
Rockport Bigarreau,  
Hovey,  
Kirtland's Mary,  
Ohio Beauty,  
Walsh's Seedling.

FOR SPECIAL CULTIVATION.  
Napoleon Bigarreau.

### APRICOTS

FOR GENERAL CULTIVATION.  
Breda,  
Large Early,  
Moorpark.

### NECTARINES.

FOR GENERAL CULTIVATION.  
Downton,  
Early Violet,  
Elruge.

### PEACHES.

FOR GENERAL CULTIVATION.  
Bergen's Yellow,  
Crawford's Early,  
Cooledge's Favorite,  
Crawford's Late,  
Early York, *serrated*,  
George IV.,  
Grosse Mignonne,  
Morris White,  
Early York, large  
Hill's Chili,  
Large White Cling,  
Teton de Venus,  
Oldmixon Free,  
Oldmixon Cling.

VARIETIES WHICH PROMISE WELL.  
Gorgas,  
Hill's Chili,  
Madeleine de Courson,  
Susquehanna.



FOR PARTICULAR LOCALITIES.  
Heath Cling.

### GRAPES.

FOR OPEN CULTURE.

Catawba,  
Diana,  
Isabella.

UNDER GLASS.

Black Hamburg,  
Black Frontignan,  
Black Prince,  
Chasselas de Fontainebleau,  
Grizzly Frontignan,  
White Frontignan,  
White Muscat of Alexandria.

VARIETIES WHICH PROMISE WELL.

Delaware,  
Concord,  
Rebecca.

### GOOSEBERRIES.

FOR GENERAL CULTIVATION.

Crown Bob,  
Early Sulphur,  
Green Gage,  
Green Walnut,  
Houghton's Seedling,  
Iron-Monger,  
Laurel,  
Red Champagne,  
Warrington,  
Woodward's Whitesmith.

### RASPBERRIES.

FOR GENERAL CULTIVATION.

Fastolf,  
Franconia,  
French,  
Knevet's Giant,  
Orange,

Red Antwerp,  
Yellow Antwerp.

VARIETIES WHICH PROMISE WELL.

American Red,  
Cope,  
Catawissa,  
Ohio Everbearing,  
Orange,  
Thunderer,  
Walker.

### STRAWBERRIES.

FOR GENERAL CULTIVATION.

Boston Pine,  
Hovey's Seedling,  
Large Early Scarlet.

VARIETIES WHICH PROMISE WELL.

Genesee,  
Hooker,  
Le Baron,  
Longworth's Prolific,  
McAvoy's Superior,  
Scarlet Magnate,  
Trollope's Victoria,  
Walker's Seedling.

FOR PARTICULAR LOCALITIES.

Burr's New Pine,  
Jenny's Seedling.

### CURRENTS.

FOR GENERAL CULTIVATION.

Black Naples,  
May's Victoria,  
Red Dutch,  
White Dutch,  
White Grape.

### BLACKBERRIES.

FOR GENERAL CULTIVATION.

New-Rochelle,  
The Dorchester Blackberry.

WASTE OF MANURE.—Hercules was evidently a poor farmer. He turned a river into the Augean stables (containing many years of accumulated manure from thirty thousand cattle) and washed the contents all away. This is like the man who most ingeniously built his hog-pen across a brook, into which the cleanings could be dumped, and carried off without "trouble."

## ANNUAL FLOWERS,

WITH DESCRIPTIVE LISTS AND METHOD OF CULTURE.

WRITTEN FOR THE REGISTER BY EDGAR SANDERS.

An *annual* is a plant, which, from seed, springs into and perfects its growth and seeds, and perishes during the same season; while a *biennial* lasts two, and a *perennial* many seasons.

Annuals are very generally distributed over the whole habitable globe, and form no inconsiderable portion of economical as well as ornamental flora. They also comprise many of our most troublesome weeds, as *purslane*, *chickweed*, &c.

Those ordinarily cultivated, are natives of many different countries, being more or less hardy according to the part of the world in which they

are found indigenously, and are known to florists by the terms *hardy*, *half-hardy*, and *tender*. California is very rich in showy annuals, as is the Swan River Colony.

Quite a number have been vastly altered and improved by florists, from the normal type, or as they are found in a state of nature, and transformed into flowers of the richest description, as asters, stocks, marigolds, balsams, larkspurs, poppies, &c., all of which have exceedingly double flowers instead of single. Others, as morning glory, phlox drummondii, portulaccas, zinnias, &c., have had their flowers much enlarged and otherwise beautified.

These results should act as a stimulus for trial on

others; it requires only a little patience, and a careful saving of seed from the best or curiously altered flowers.

Many annuals are admirably adapted to planting in masses, (that is one sort only in a bed,) especially such kinds as Portulacca, Phlox, Nemophila, and others; and any of them may be made to adorn mixed borders,



Fig. 82—PETUNIA PUNCTATA.



and fill up all gaps of early-flowering plants, as spring bulbs, or any plant dying down before midsummer.

The dwarf kinds, as *Portulacca*, &c., make the showiest of edgings, either to walks, or for a ring on the outside of other plants. A few do well mixed together, as *Clarkia* and *Mignonette*, the latter hiding the naked stems of the former. The same of the *White Alyssum* and *Purple Candytuft*, the *Dwarf Gillia* and *Blue Pimpernel*.

**MODE OF SOWING.**—First sow one kind evenly over the bed, not too thick; then the other; when they come out into rough leaf, or as soon as they can be handled, thin them out so that they stand equally at regular distances over the whole bed.

They may also be sown ribbon fashion, that is, by taking a certain number of kinds, those having the primary colors for example, and which

will arrange for height, and sowing, if in a circular bed, in concentric, equi-distant rings, having a patch of a conspicuous color, as brilliant scarlet or white, in the center, which plant if considerably taller than that chosen for the outside, so much the better. Any other device may be as readily adopted as circular, but none pleases so well.

In sowing patches in mixed borders, (or indeed in any place,) always take a strong rake and loosen up the soil if not recently dug, and sow the seed wide enough to fill up the whole space required; draw the rake once or twice gently over the seed, and then give the soil a patting with the head of the rake, and all small kinds of seed will be buried deep enough.

Lupins, Sweet Peas, and similar seed, require planting about one inch deep; other seed in proportion. It is far better to

leave such tiny seed as *Lobelia gracillis*, lying on the ground, than to bury too deep.

In sowing edgings for straight walks, stretch down the line for a guide.



Fig. 83—PURPLE CANDYTUFT.

It looks very slovenly to see a crooked edging to a straight walk. Curves should be regular for the same reason. If a neat thin row is required for an edge, draw a pointed stick along close to the line, and sow in the mark; if a wider edging, a practiced eye will be able to give the seed a wider berth without drill.

In light loose sandy soils, give the surface a gentle patting with the back of the spade after sowing. If a dry spell of weather intervene, the

soil must be moistened with water each evening until the plants are above ground.

Many kinds bear transplanting with the best results, if done carefully in dull or showery weather, particularly quite early in the season. The finest bed of *Portulacca* we ever had, was from those transplanted six inches asunder, flowering better and later in the season than beds sown and allowed to stand thicker.

The following kinds never do well transplanted, hence should always be sown in the bed they are to remain: Candytuft, Catch-fly, Dwarf *Convolvulus*, *Lupinus*, *Malope*, *Poppies*, *Venus' Looking-glass*.

Never be afraid to thin out annuals. Many give up their culture as a failure, simply because they allow them to grow too thick, and so choke each other. The larger kinds, as *Balsams*,



Fig. 84—*LUPINUS NANUS*.

are finest standing separately, and should never be less than one foot from each other, nor more than three in a hill planted triangularly. None but the very smallest sorts should be less than six inches asunder.

Remember, if given plenty of room, May-sown annuals of many kinds will continue in flower until frost comes, while if they stand thickly, they soon exhaust the soil, cease flowering, and look unsightly the last of the season.





Fig. 85—GERMAN TEN WEEK STOCK

HARDY ANNUALS may be sown in April, May, or early in June, according to the earliness of the season in the different States; but to avoid failure, never sow too early—not until the earth is sufficiently warm to in-

SEED SAVING must be seen to systematically; that is, the seed must be watched and collected as it ripens; and if only for home growth, select only the finest and plumpest seed, usually that first ripened. Put it away in small bags of brown paper made for the purpose,—a nice occupation for evenings,—and mark legibly its common name at least, with any remark as to certain variety, &c. When all collected, give them a place in some room away from the drying influence of a stove or heater, or where it is at all likely to be damp.

SOIL.—Most garden soils will grow annuals, but some kinds do better in sandy soils, while others prefer it stiffer. It should be well spaded up in the fall or spring; if the former, always to be stirred again deeply before sowing in spring. There are but few but require moderately rich soil, hence are generally benefited by turning in some manure.

In the absence of ordinary manures, a substitute can be always obtained in guano, pigeon or other dung, &c. Mix in six or eight times its bulk of sand or soil, and spread broadcast—a handful to every two or three square yards.



sure a speedy germination. Many lay the fault to the seed, when it is more than probable the seed perished for want of the necessary warmth for germination.

In this region of country, the first or second week in May is about the best time to sow hardy annuals. In a month, more or less, they will be fit for transplanting, if required to be done—if not, they should then be properly thinned, giving each individual plenty of room.

For transplanting, choose a dull or rainy day, and take up carefully with a trowel, so that they may receive as little check as possible. Be



Fig. 86—PHLOX DRUMMONDI.

sure, in sowing or transplanting, to observe the height each kind grows, and act accordingly, keeping the dwarfest near the eye, and the tallest in the back-ground.

This class of annuals do finely if sown in September, so as to get strong enough to stand the winter, and Rocket Larkspurs better in this way than any other.

TENDER ANNUALS require sowing in pots placed in a warm window, green-house, or better yet, a gentle hot-bed, in March. Those who aim at complete success in this department, will, as soon as the plants become strong enough, transplant them into small flower pots, three in a pot, to



be transferred to the open ground the same time that other pot plants, as *Heliotropes*, &c., are. It is only by doing this, that the more delicate tender annuals, as the curious Sensitive Plant, and a few others, can be made to ripen seed in this northern latitude.

In case the hot-bed is too expensive, or sowing in pots objected to, any of the tenderest will grow and flower if sown the last of May in the open ground, although not so finely.

**HALF-HARDY ANNUALS** are generally treated as the above, except they need not be kept so warm. In fact, with the assistance of a frame only,

perhaps the best success can be obtained with these. The finer varieties of imported German Asters, do grandly sown in a cold frame, once transplanted if possible—if not, removed with all the fibres and soil that will hang to the root.

A box made shallow, say 4 or 6 inches, the size of the kitchen window, may be made to produce quite a quantity of choice asters and stocks, with very little care. As the days get warm, the box should be placed in the open air to harden off the young plants, or else the window opened quite wide.



Fig. 87—DWARF CONVOLVULUS.

There are some few flower seeds usually sold with annuals, more strictly green-house plants, such as *Petunias*, *Verbenas*, &c., but the latter plant being now so easily obtained in pots, it is hardly advisable to sow it as an annual except with the hope of new varieties, when of course choice seeds should be selected.

There are a few annuals frequently grown as green-house plants, and quite valuable for that purpose, as they help to enliven it, and afford cut flowers in the dreary months of winter. Of these may be named *Mignonette* and *Sweet Alyssum*, for their fragrance; the *Nemophila insignis* and *maculata*, for drooping plants, either in pots, vases, or hanging baskets. The best time to sow for this purpose is August and September, in the pots they are to grow, or elsewhere, to be afterwards taken up and potted.

The following list contains only those of first-class character, and about all really worthy of general sowing. The remainder (much the larger portion) being pretty, without great claim to notice. If our choice had



to be still further curtailed, we should choose only *Phlox Drummondii*, *Stockgilly*, *Asters*, *Mignonette*, *Rocket Larkspurs*, *Portulaccas*, *Balsams*, *Zinnias*, *Convolvulus*, *Four O'Clocks*, *Gillia*, *Alyssum*, *Candytuft* and *Petunias*.

### LIST OF CHOICE ANNUALS.

Those marked H., hardy—H. H., half-hardy—T., tender.

*Alyssum maritimum*, or Sweet Alyssum—H., white, excellent for greenhouse—6 inches.



Fig. 88—ROCKET LARKSPUR.

*Aster Chinensis*, or China Aster, a well-known H. of many colors, and very beautiful.

*Amaranthus caudatus*, or Love-lies-Bleeding, and *A. hypochondriacus*, Prince's Feather—two H. plants, red—well adapted for the back of mixed borders—3 feet.

*Balsamia hortensis*, Balsam or Lady Slipper, known by every body—1 to 2 feet.

*Cacalia coccinea*, or Venus' Paintbrush—H.—scarlet, 1 foot.

*Calendrina discolor*, rosy purple—very pretty for massing—H.H.—1½ feet.

*Celosia cristata*, Coxcomb—scarlet, very showy—T.—1 to 2 feet.

*Clarkia elegans*, *C. pulchella* and *C. alba*—three very showy plants with rose, purple and white flowers—H.—1 to 1½ feet.

*Collinsia bicolor*, two-colored, and *C. grandiflora*, blue, Collins' Flower—H.—useful annuals—1 foot high.

*Convolvulus major* and *minor*—the well-known Morning Glory (twiner with many colored flowers)—and Blue Bindweed, very pretty—trailing.

*Calliopsis bicolor*, formerly *Coreopsis tinctoria* or Fair-eye—a very gay plant—H., and flowers best sown in the fall; *C. Drummondii*, yellow—1 to 2 feet.

*Dianthus chinensis*, or China Pink—many fine double varieties, remarkably pretty—H.H.—1 foot.

*Delphinium ajacis*, Rocket Lark-



spur—many varieties—superb if sown in fall—when in flower almost equal to a bed of Hyacinths.

*Eschscholtzia crocea*, orange, and *E. californica*, yellow—two pretty dwarf H. plants.

*Erysimum Perowffskyanum*—Hedge Mustard—a bright orange cruciferous plant—1 foot high—H.

*Gilia tricolor*, *G. capitata*, blue, and *G. achillæfolia*, large blue—three very pretty H. annuals.



Fig. 89—PORTULACCA.

*Gomphrena globosa*—red and white globe Amaranthus or Everlasting—should be sown for dry flowers in winter.

*Iberis amara*, White Candytuft, *umbellata*, purple, and *odorata*, white, sweet-scented—three very free blooming plants—1 foot—H.

*Ipomæa quamoclit*, the well-known Cypress Vine—fine twiner, with white and red flowers—T.—good for covering arbors.

*Lathyrus odorata*, or Sweet Pea—many varieties.

*Lupinus*, many varieties—they require to be partially shaded.

*Lophospermum erubescens* and *scandens*—two fine creepers with rose colored flowers, like a fox-glove.

*Malope grandiflora*, large red flowered, and white—good plants for back borders—H.H.—2 feet.

*Mathiola annua*, the well-known ten-week stocks, very showy and sweet-scented.

*Maurandia Barclayana*, blue, *semperflorens*, pink, and *alba*, white—beautiful climbing plants for pillars.

*Mimosa sensitiva*, or Sensitive Plant—grown for its curiosity—T.

*Nemophila insignis*, blue, and *maculata*, dotted—two very pretty low-growing plants—like the shade—H.

*Phlox Drummondii*, of many colors—the finest annual of all—creeping.

*Petunia*, many varieties—rich decorative plant.

*Portulacca splendens*, purple; *Thorburnii*, yellow; *alba*, white; *elegans*, crimson; and *Thellusonii*, red-flowered; —a very rich H. annual.

*Reseda odorata*—the well-known and highly-scented Mignonette.

*Schizanthus*—several varieties of beautiful flowers.

*Shortia Californica*—very showy—H., with yellow flowers.

*Tagetis* or Marigold—many very showy flowers.

*Zinnia elegans*—very showy plants, with many colored flowers—H.H.—2 feet.

## GARDEN STRUCTURES.

A CHEAP VINERY.—It is long since skillful gardeners in this country have attempted to raise the finer and more delicious exotic grapes in the open air. All the best sorts may be easily brought to perfection in a cold house, or one without fire heat, although by an artificial increase of temperature, they may be ripened some months earlier in the season.

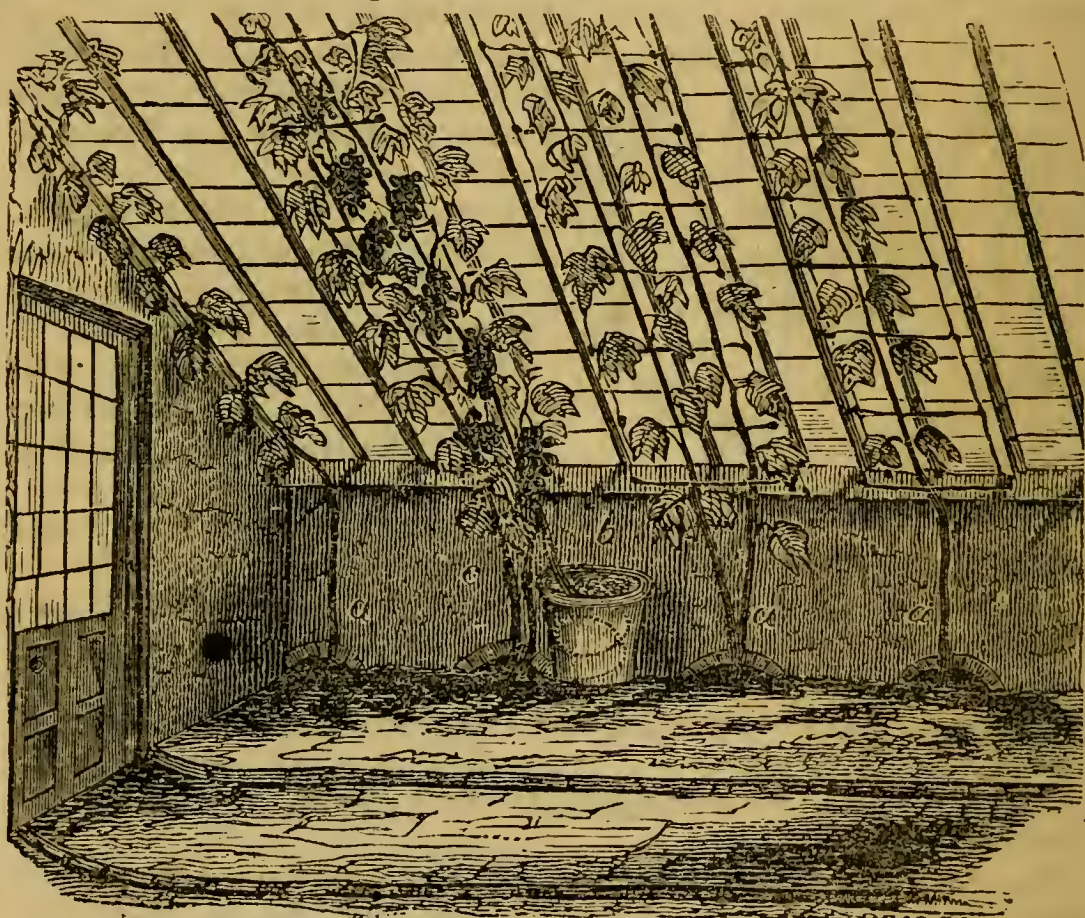


Fig. 90—CHEAP VINERY.

In a former number of the Register, a design was furnished of an elaborate and costly vinery; the above is a view of one of a cheaper character, and within the means of nearly every land-owner. The back and ends are simply upright boards or plank, and are secured to posts like those of a common tight board-fence. It would be better and warmer, if the outside were clapboarded, and the space filled in with tan or sawdust. Such grape-houses as this are sometimes placed against the south side of a carriage-house or other out-building, thus saving room and the cost of erecting a back wall. The following may be recommended as convenient dimensions, admitting, however, a few feet variation according to circumstances:—Height of back, 9 feet; of front, 3 feet; width, 10 to 11 feet; length 20 or 30 feet.



The border is best outside, to receive rains, but a portion may be inside; and must be three feet deep, well drained, ten or twelve feet wide, and filled with the richest materials.

The chief cost of this vinery is that of the sash and border.

Fig. 90 exhibits the interior of this grape-house.

**A CHEAP GREEN-HOUSE.**—For those who are fond of flowers, there is nothing more interesting than their culture during the dreary months of winter. A few kinds will flourish well in the dry, hot, and changeable air of ordinary stove rooms; but it is not always convenient nor practicable to occupy the limited space of living-rooms in this way, and most plants will not succeed so well here as in a cooler and more uniform temperature. An ordinary green-house is a somewhat costly structure; and regulating the fire during a whole winter is quite a formidable task.

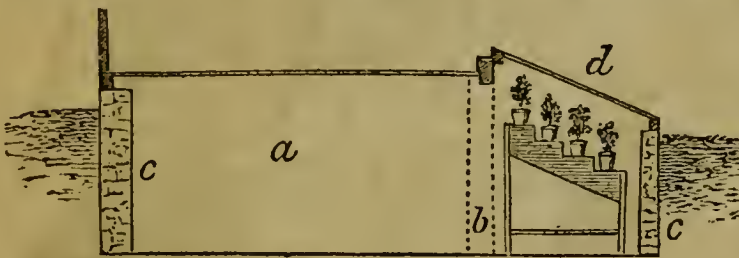


Fig. 91.

For green-house plants, properly so called, or those which do best in an air but few degrees above freezing, we have lately adopted a plan which we find to succeed admirably with but little care, and without the cost or attention of fire-heat. Although this plan is not altogether new, we believe a description will be useful and acceptable to many of our readers.

It consists of an extension made to an ordinary cellar, on the south side, and covered with a sash like that of a common green-house. Fig. 91

is a section, *a* being the cellar; *b*, the ordinary place of the south cellar wall, which is removed, leaving the space open to the green-house extension; *cc* are the walls, and *d* the sash. Fig.

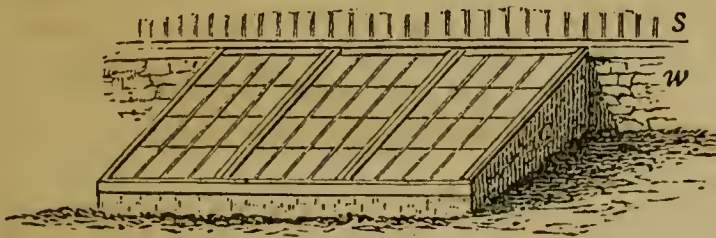


Fig. 92.

92 represents the external appearance of this contrivance, showing the sloping sash, and a portion of the cellar wall, *w*, and siding of the building, *s*.

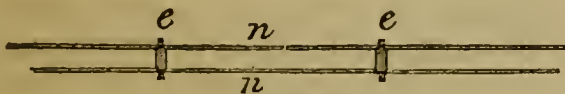


Fig. 93.

Fig. 93 exhibits a cross-section of this double sash, *ec* being the sash-bars, and *nn* the panes. The bars are made on *both* edges in the same form that ordinary sash is made on the glass side for the reception of the panes. We have had cross-bars made between these sash bars,

In order to obviate the necessity of fire-heat, it is requisite that so large a surface of sash should be double-glazed.

like ordinary window-sash, so that the lower panes are set in as in common windows, the upper or lapping panes merely resting on these cross-bars. This arrangement makes the window rather more secure from the passage of air, but is not absolutely necessary.

This structure being attached to an office where a fire above the cellar is not regularly kept up, sometimes needs a very small fire in a stove when the thermometer sinks to zero; but if connected with a dwelling constantly occupied, no artificial heat would be ever needed.

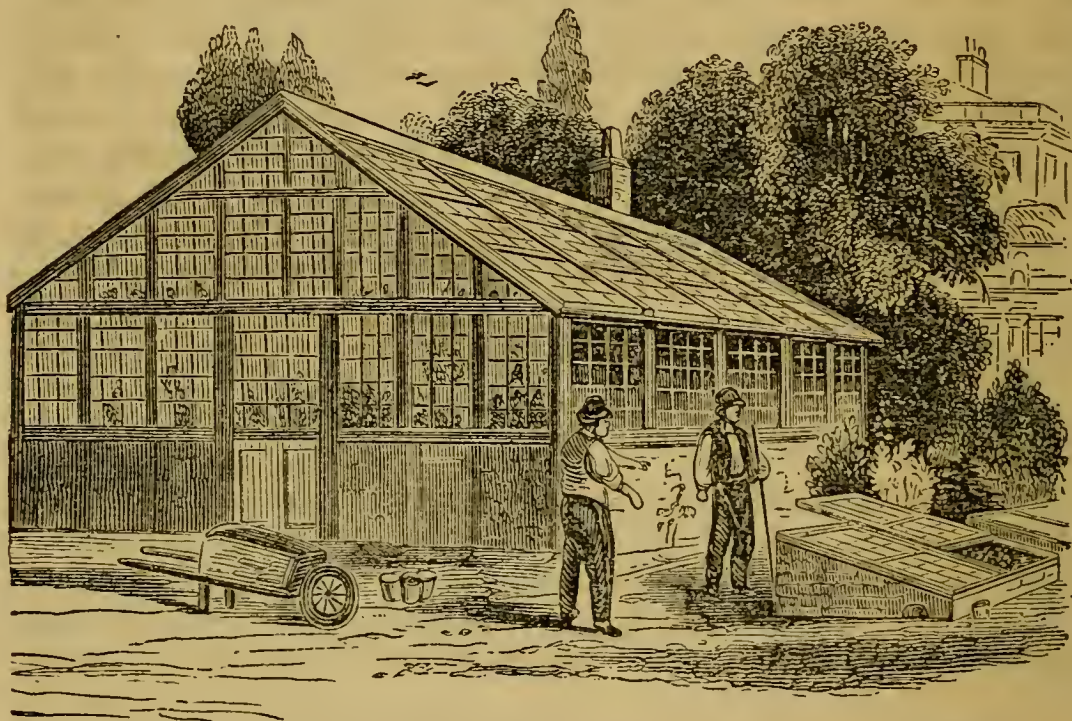


Fig. 94—COMMON GREEN-HOUSE.

THE COMMON GREEN-HOUSE (fig. 94) is a more costly erection, of which the above cut represents one with double or span roof, of plain and simple but commodious construction. Our limited space will not allow us to enter into the details of its structure, or general management.

A MAGNIFICENT GREEN-HOUSE, or rather conservatory, is that of the Royal Botanic Gardens at Kew, in England, which are thrown open to the public, and occupy some 200 acres. Among other things which these gardens contain, are over twenty glass structures for plant houses, the largest of which is the enormous building containing the palm trees, which cost about \$200,000. It is thus described in the *Horticulturist*: "It consists of a center and two wings, (as you will see by figure 95.) The whole length is 362 feet; the center is 100 feet wide, and 66 feet high; and the wings 50 feet wide, and 30 feet high. It is entirely constructed of iron, stone, brick, and sheet glass—not a particle of wood being about it. The roof is circular. The iron posts are inserted in great Cornish granite blocks. It is heated by 12 furnaces, and by hot-water



pipes and tanks, carried beneath the floor. The aggregate length of these pipes is about five miles. The smoke from the furnaces is conveyed through a subterranean flue, in a brick tunnel, 6 feet high, (through which one may conveniently pass,) to the distance of about 400 feet, where an ornamental shaft or tower is erected, 96 feet high. In the top of this

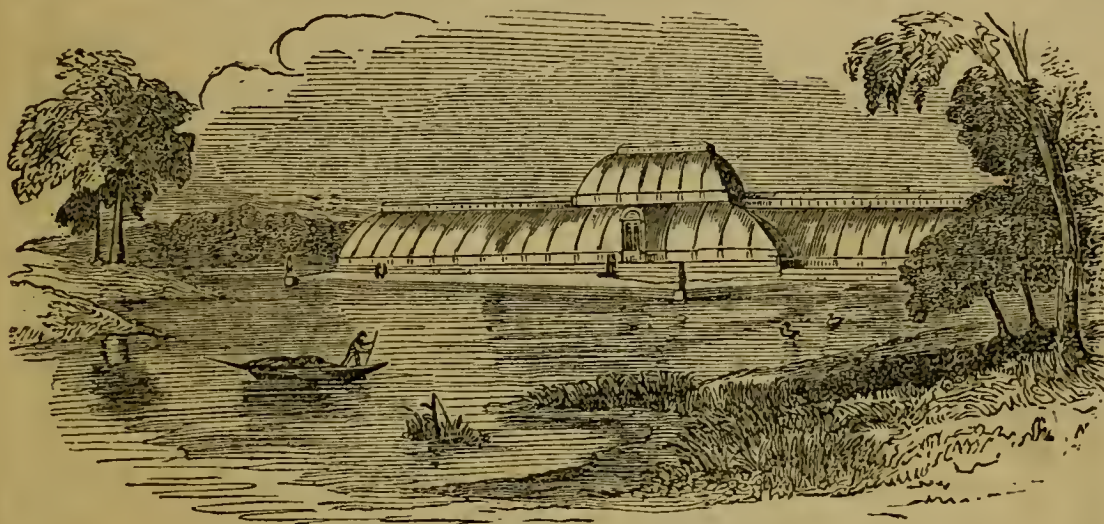


Fig. 95—CONSERVATORY AT KEW.

chimney and tower is a reservoir, to supply the houses with water; and at its base is a coal yard, and from this the coal is conveyed on a railroad through the tunnel alluded to. In the center of the building is a gallery 30 feet high from the floor, ascended by a spiral staircase. From this gallery the plants are easily watered over the top; and the taller plants are more easily examined, and appear to much better advantage than from the floor level. It is really a charming sight which you have from this gallery, looking down on magnificent *Palms*, *Sugar Canes*, *Cocoanut Trees*, the great *Strelitzia augusta*, and many rare and beautiful tropical trees, in the most healthy and luxuriant condition.

“It affords one some positive idea of tropical vegetation. The plants are all in tubs, so that each one is placed where it ought to be, and can be moved about as circumstances may require. All the pillars in the house are clothed with climbing plants of variety and beauty.”

**TOMATOES.**—Short, thick, spreading bushes, sharpened and put into the ground by first making a hole with a crowbar, serve as an admirable support for the stems of the tomato plant, which, when loaded with its fruit among the spreading branches of the bushes, look like dwarf trees in full bearing.

**A GOOD TOAST.**—R. C. Winthrop furnished the U. S. Ag. Society, the following toast: “The farmers of the United States—may their policy and practice be such that we may never see America clothed in *weeds*.”

## THE KITCHEN GARDEN.

HINTS FOR ITS MANAGEMENT, TOGETHER WITH LISTS OF THE KINDS OF  
VEGETABLES BEST TO BE GROWN.

[Written for the Register by EDGAR SANDERS.]

THE KITCHEN GARDEN is so named from its being the spot where all kinds of vegetables are grown for the supply of the table. Its value is of the first importance, taking precedence of either fruit or flowers in well regulated households. The three, combined in just proportion to the wants of the family, constitute (or should do) one of the prime luxuries of a country over a town life.

To be able to grow one's own asparagus and pie plant early in the season, and from that time out enjoy all kinds of vegetables and fruits in due season, and inhale on one's own homestead, the perfume of a "thousand flowers," is a treat and luxury that all in the country may have, and yet how few do so.

Those who really enjoy to the full, the luxuries we speak of, must in the very nature of things possess an enviable home, while the very opposite is to be expected from those who neglect the opportunity.

It is altogether desirable to locate the culinary department by itself, excepting small fruits, which, from the advantage of a rotation of crops, are usually grown in the kitchen garden.

It is injudicious, to say the least, to mix flowers with vegetables, as, if there is any room for flowers, and there always should be, it can as well be so arranged to have the flowers by themselves and nearer the dwelling. Besides, straight lines should prevail in the vegetable department, and hence in the case of city or small amateur gardens, the two departments should be defined, and slightly separated by an evergreen hedge, or some shrubs do well for the purpose.

In the way of a choice of soil or situation, it does not often happen to be a matter to decide on; when it does, a gentle declivity to the south or south-east is the most desirable, while a retentive loam forms the best basis for a good soil.

But never let a clay or driving sand even, deter you from the good work, as the former is easily subdued by draining, thorough exposure to the frosts of winter by means of ridges, and applying all light loosening materials that can be got at, as coal ashes, sand, road or street sweepings, refuse from the woods, and similar material. Blowing sands are also to be improved by the opposite practice.

In all cases, draining of soils inclined to be wet at certain seasons, should be among the first operations.

Its form is best a square or parallelogram, the outside boundary furnished with a board fence six feet high, which can be covered with cur-



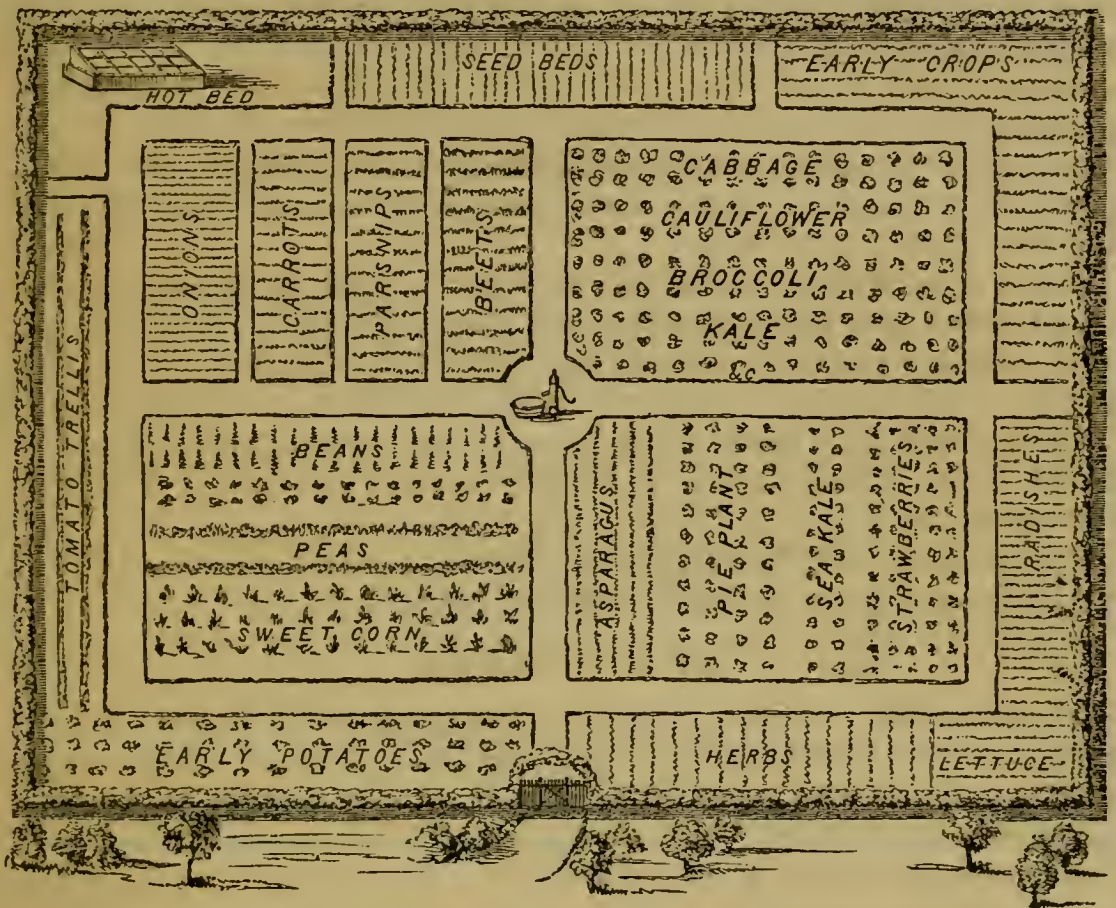


Fig. 96—KITCHEN GARDEN.

rants, tomatoes, &c., during summer; or it may be a good stout hedge. It must be recollected that the hedge or fence performs one office beyond that of preservation, being very useful to break off the cold winds. A shelter of evergreen trees planted a short distance off, is another useful feature in breaking the north-west winds.

The size must be entirely regulated by the wants of the family; but one acre, thoroughly tilled, can be made to produce an immense amount of stuff, while not a few families would find it difficult to use all that could be grown on half an acre, if we leave potatoes and a few winter store vegetables to be otherwise provided for.

Gardens of small extent, or those belonging to amateurs, are usually cultivated by the spade, and may have the walks extending around the piece 7 to 10 feet from the outside, with cross-walks each way in the center; but large gardens, and most farmers' kitchen gardens also, will be cultivated with the plow.

Walks in gardens under the plow, interfere much with its thorough execution; hence it is best to have only a few permanent walks, alley ways being provided for attention among the crops.

Deep cultivation and manure without stint, are the price of the richest

kind of vegetable growing; hence trenching or subsoiling should be so arranged that the whole might come every three seasons under its influence.

ROTATION OF CROPS also forms a good opportunity of changing the soil, or rather the crop to the soil, every third year or so. Thus, if the root crops for example, are kept by themselves and changed each year, the act of taking them up will answer the place of a good soil-loosener. The same holds true of celery.

Quick growth suits vegetables; hence a rich soil or one made so by abundance of manure, is a point of the first importance. Artificial manures, whether applied in a liquid form (which is best) or otherwise, will be a powerful stimulus to any crop thought to be on too poor a soil.

Having said thus much preliminary to our subject, we now come to speak of the different kinds of vegetables, and the mode of treatment suitable to them.

For the sake of condensing as much as possible within prescribed limits, we will arrange them under the following heads, viz:

#### R O O T C R O P S.

These include carrots, beets, parsnips, scorzonera or oyster plant, to which may be added onions, although entirely dissimilar, which crops require to be all sown about the same time, usually as soon as the land gets into workable condition in the spring. These crops do best in deeply pulverized soil; hence, if kept together, the piece intended for them can always receive extra digging or subsoiling, and by changing the soil each year, a rotation is secured, and the land at stated periods subjected to deep cultivation.

Sow in drills one inch deep, from nine inches to a foot apart—in large field operations fifteen inches is better. Each kind can be thrown into a separate bed of eight or more feet wide, for convenience of weeding, but this is entirely optional, a point of greater importance being to form the land into beds for the onions and carrots at least, with an alley between, deep enough to carry off all surface water, in cases where the land gets water-logged at certain seasons. Thin out all but the onions to six or nine inches apart in the row. Onions may stand much thicker; in fact, if they are so thick that there is not room for each other to swell, they will crowd and ride in very rich land, and produce abundantly. If, however, onions of equal size are wanted, thin out to four or six inches apart. The onions will come off in time to receive a crop of cabbage or other vegetable. If the latter, they should be planted before the onions are quite ripe.

Among root crops, must not be forgotten turnips and ruta bagas. July and August is the time to sow them; hence early crops may be taken off the ground previously.

The above are the main crops, principally for winter use; besides these,



an early sowing should be made of beets, (turnip-rooted,) Early Horn carrot, and a bed of Early Stone turnip, on the warmest border in the garden, to come in for first use.

In very early sandy soils, the seed may frequently be sown by the last of March or beginning of April, and if the young plants are protected with a few boughs, some litter, or the like, a very early crop will be the reward.

Do not forget to make a sowing of onion seed very thick, to furnish "sets" for another year. By being so very thick they ripen off in July; if they do not, they must be pulled up, dried, and stowed away till next spring.

Root crops are stowed away in dry sand in the vegetable cellar for winter use. The sand keeps them plump and fresh.

#### BRASSICA OR CABBAGE TRIBE.

This is one of the most important, and includes cauliflower—sown in September for early spring use, and in May for fall use, and is a vegetable of the very first character.

Brocoli is similar to cauliflower, but hardier, and comes in use in the fall—not quite so delicate, but still rich and good.

Brussels sprouts, Scotch and other kales also, must not be forgotten, all of which are sown in May, planted out in July, and fit for use in fall and winter.

Lastly, but by no means least, comes the cabbage, too well known to require much description. These should always be in supply from year's end to year's end. Those intended for first use to follow the winter-kept ones, being kept all winter along with cauliflower and brocoli plants, in pits or frames. Plantations should be made of this tribe, at short intervals from May to August, to keep up succession. Dig the soil up well, and do not fear to use strong manures. Night soil, slaughter-house manure, and the like, are excellent for this crop.

For keeping over winter, sow in September, and plant out in spare frames, pits or cold vineries, when large enough, and protect slightly in severe weather. In the spring, as soon as the days are favorable, transplant carefully into good rich soil. For fall and winter use, sow in May—transplant when large enough into well prepared soil.

The fly is very troublesome to this tribe of plants. Nothing is so effectual to destroy them as tobacco dust applied in the morning from a very fine sieve.

Cabbages keep finely if suspended in a cold cellar to the beams. Those wanted for spring may be laid in the ground, roots up, covering the cabbage some six inches. Brocoli or cauliflower will head readily in winter in a shed or cellar.

## BEANS, PEAS, &amp;c.

Another quarter of ground may include the various kinds of the above crops, along with which may be planted sweet corn, and perhaps squash, and a few early potatoes.

Potatoes, usually, are freest from disease in fields; hence it is best to reserve the garden for other crops, where there are fields to grow the store potatoes in, growing enough only to last till digging-up time.

Lima beans, to economize space, may be grown to single poles skirting the main walks, or to a trellis covering the same, thus forming a shady arbor. Three to a hill is plenty. If in rows plant four feet apart.

Bush beans are sown every three weeks until August, which gives successional crops—have the rows two feet apart. Cucumbers may be sown between the Limas.

Peas will require sowing three separate times, at intervals of two or three weeks apart, which will carry this crop until the sweet corn comes in, when it is cared little for, and what is more, fails to do well during the hottest weather. Peas may be interlined with some of the cabbage tribe, or lettuce, radishes and spinach.

## OTHER CROPS.

Tomatoes require sowing in a hot-bed, window or green-house, in February or March—afterwards potted into three, then six-inch pots, and



Fig. 97—SUPPORT FOR TOMATO PLANTS.

finally planted in the open ground the middle of May. In limited areas, plant them in a row—one fifty feet long will grow as much as an ordinary family will use. Keep them tied up to a support—(fig. 97.) We put in some stout stakes, seven feet high, and nail slats lengthways to them. Wire strung from stake to stake, does equally well, as does an open sunny fence, to train them to. Once the fruit begins to set, pinch all the growing shoots beyond the fruit. It encourages fruiting very much. A slight thinning of the foliage hastens the maturity of the fruit.

Lettuce, and other kinds of salads, should be sown for succession the whole season,—endive taking the place of lettuce during dog days, and turnip-rooted the place of long radishes. The crops can occupy any spare ground, or the borders on the outside.

Celery must be sown the end of April or beginning of May—transplant-



ed once before final planting in July or August. No ground need be specially provided, as rows can be planted between peas, corn, &c.

One of the best ways to keep celery perfectly good all winter, is to select a dry piece of ground, and open a trench a foot wide, and deep enough to take the celery standing upright. Shovel out the crumbs, and stand in the celery, roots and all, as thick as it will stand together. Press the soil up close to the heads at the side. Get some short pieces of board, and lay across the trench to rest other boards on, which will entirely close them in. Pile over the soil, and without any other covering it will keep perfectly fresh till spring. To get at a portion any time, cover over with long dung. Enough should be got out each time to last a month. This may be kept in sand in boxes, standing upright.

Squashes, cucumbers, and melons, will also have to be provided with a patch of land, which crops are best, sown in small oblong boxes, covered with a pane of glass to keep them from the yellow-striped bug and other insects. It is well to sow a few pots of each of these kinds in the hot-bed, to be afterwards transplanted, to come into use a little before those sown in the open soil.

Peppers of various kinds, egg plants, ochra and other fancy vegetables, require to be sown in a hot-bed first, or in its absence a warm window or green-house. When large enough, re-pot into small pots, three in a pot, and finally transplant to the open soil the middle or end of May, according to the season. The latter crops, together with many of the sowings of lettuce and other salads, a few herbs, as thyme, savory, parsley, &c., should not be sown or planted on the large square patches or quarters, but kept to the small borders on the outside.

#### H O T - B E D.

This is a very necessary part of kitchen garden arrangements, and should be possessed by every one who has a rood of ground. A three-light frame will be a useful size, and one large enough for ordinary private use. The dimensions of such are about six feet one way, by nine or twelve the other—generally glazed with six by eight glass.

Having the box (usually called frame) ready, towards the end of February or early in March, collect some stable manure together, and let it heat for about a week before using. Choose a sunny aspect—south-east is best—and mark off a space one foot larger than the size of the box. Over this space build the manure precisely as though it was a hay-stack—that is, layer after layer, even all around, until the desired height is obtained—generally from two to three feet. Press it down pretty firmly, and set on the frame and lights.

Take the fork and well knock in the sides of the bed, which will materially assist in preserving a uniform heat. Let it stand a few days, and if the heat has risen, put in six to nine inches of soil. Insert a "trial

stick," and when on withdrawing the same it is found comfortably warm, the seed may be sown.

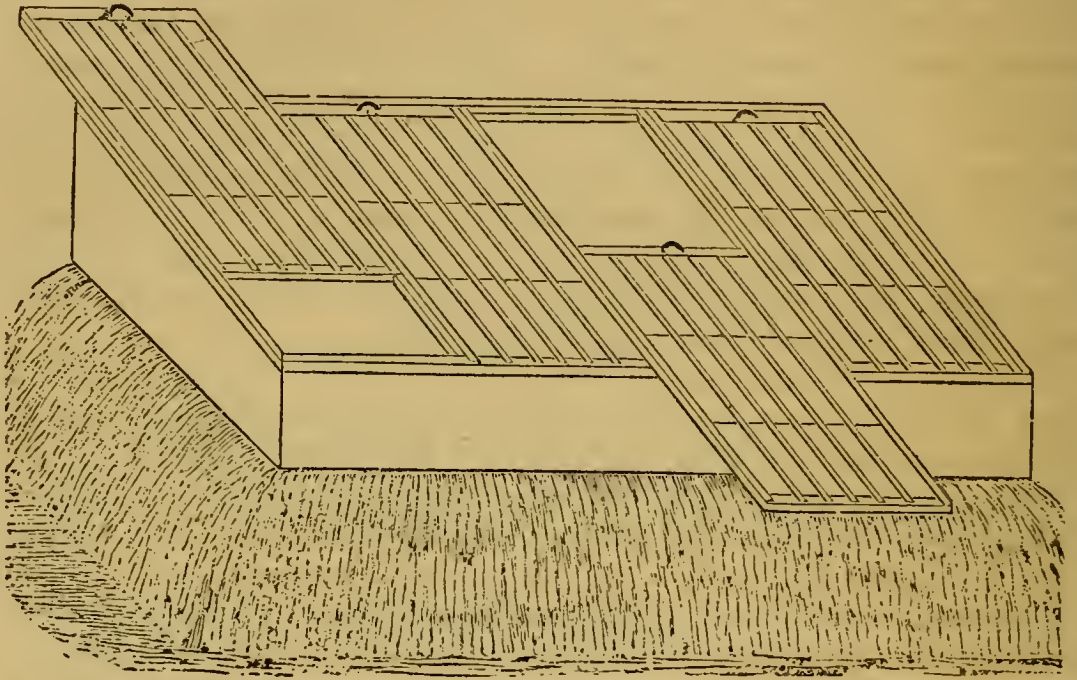


Fig. 98—HOT-BED.

The seeds usually required to be advanced, are Early and Red cabbage, cauliflower, lettuce, radishes, tomatoes, peppers, egg plant, and sometimes ochra and martinias. Level down the soil, and sow the above, or any portion, and in just such quantities as the family requires. One light might be of cabbage and cauliflower, another of radish and lettuce mixed, while the third can be equally divided among the rest. Cover with half an inch of soil; press the soil gently with a piece of board, and water sufficiently to settle the soil. Air must be given in sufficient quantities to keep the temperature under  $65^{\circ}$ , without sun heat. Directly the plants begin to appear, give air quite liberally every warm day, and ultimately take off the lights altogether, first in the day, then in mild nights. This prevents the plants becoming spindly and weak.

All the above, except the radishes, are intended to be transplanted to the open soil, as soon as the soil is sufficiently warm.

In addition to the above, sow a pot or two of cucumbers, and when up into rough leaf, pot off three in a pot and nurture along in the warmest part of the frame, giving them a shift into larger pots if they require it. A portion of these are intended to plant out in the frames as soon as the other things can be got out of the way; the remainder to be planted out in a warm spot in the open border.

Before planting in the frames, loosen up the soil, and add a little fresh around the plants, for the young rootlets to work into. Keep the frame pretty close, and the plants occasionally picked back to induce a stocky



growth. When the vines have filled the box, raise it, and allow them to grow outside; gradually inure them until the frames and lights are all finally removed. Fruit will be fit to cut in June, and by the time these are done, those planted outside will be in, and by that time those sown in the open soil.

Some like to have half a dozen pots of melons to plant out in the same way.

Asparagus, pie plant, and sea kale, come under the head of permanent crops, and therefore are not mentioned in this treatise.

#### SELECT LIST OF VEGETABLES.

The following is a list of choice kinds of vegetables, all of known and tried value. The first of the different kinds mentioned in the list are those best for sowing in a hot-bed:

BEANS—Snap, Early Mohawk, Refugee, and White Bush Cranberry, and Large White Lima.

BEETS—Early Turnip or Bassano, and Long Blood.

BROCOLIS—Early White, Walcheren, and Purple and White Cape.

CABBAGES—Large Early York, Early Dutch, Late Bergen, and Late Flat Dutch.

CARROTS—Early Horn, Long Orange, and Altringham.

CAULIFLOWERS—Walcheren and Large Asiatic.

CELERY—Red and White Solid.

LETTUCE—Ice Coss, Curled Silesia, and Cabbage Head.

PARSNIP—Guernsey or Hollow Crown.

PEAS—Prince Albert, Champion of England, Bishop's Dwarf, and Blue Prussian.

RADISHES—Scarlet Short Top, and Red and White Turnip.

SPINACH—Round Leaved, and Prickly.

SQUASH—Summer and Winter Crook Neck, and Boston Marrow.

SWEET CORN—Early Sweet, Stowell's Evergreen, and Old Colony Sweet.

TOMATO—Large Red Smooth.

TURNIP—Early Dutch, White Short-leaved, Red Top, and Improved Swede or Ruta Baga.

BRUSSELS SPROUTS, KALE.

ONIONS—Large Red, Yellow Dutch and White Portugal.

EGG PLANT, ENDIVE, PEPPERS.

THREE POINTS are to be especially observed, in cultivating successfully Garden Vegetables. First, perfect freedom from weeds; secondly, thinning out where they have come up too thickly, for a superabundance of such plants retards the growth and development of the rest, in precisely the same way as weeds; and thirdly, keeping the ground mellow and the crust broken, by very frequent pulverization, especially if the ground is rather clayey.

## FARM BUILDINGS.

## ORNAMENTAL CARRIAGE HOUSES.

CARRIAGE HOUSE CONNECTED WITH AN ITALIAN DWELLING.—We often notice, in works on Landscape Gardening, directions for concealing from view by trees, the barns and other out-buildings of the farm, with the evident understanding that they are and must be unsightly objects. We believe these directions to be founded in error, because among the most important comforts and conveniences of a country establishment, are good and commodious out-buildings. Indeed, they may in some degree be regarded as forming a union between the dwelling and the farm, in a manner somewhat similar to that by which a union between the house and ornamental grounds is maintained by means of architectural embellishments. At all events, a total absence of farm buildings would not be a pleasing sight on a fine and well cultivated farm, which should be conspicuous for all the comforts of home. Hence the true course, is obviously to improve those buildings, so that, at least, partly visible through trees, they may add to, instead of defacing the scenery.

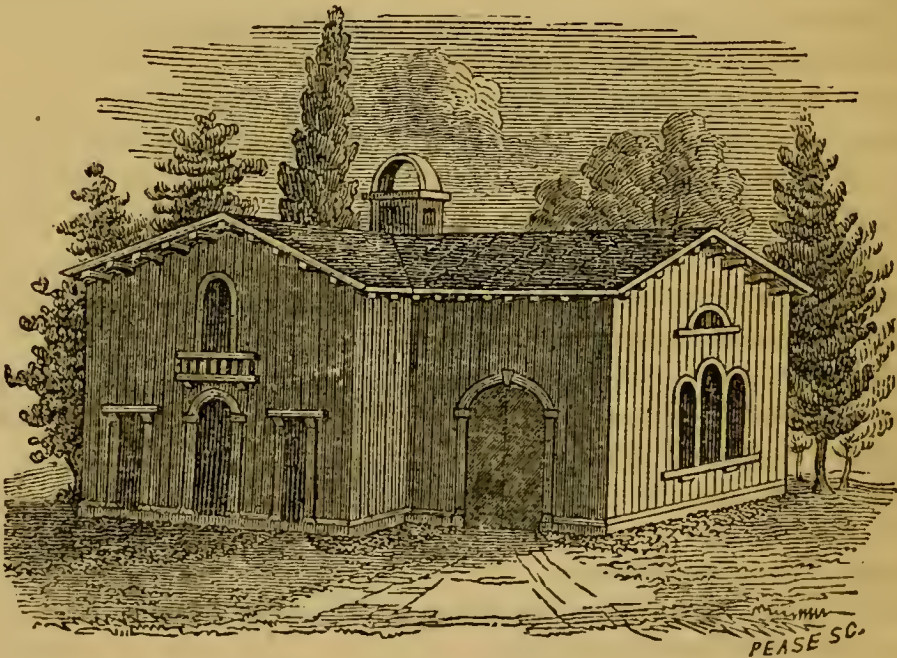


Fig. 99—ORNAMENTAL CARRIAGE HOUSE AND HORSE BARN.

With the object of calling attention to the architecture of barns, we give a plan and view of a carriage house and horse barn, erected by a gentleman in the western part of the State. It is built in the Italian style, and required only a small expenditure for the completion of all its parts, above what is usually needed for buildings of this kind. In the plan it will be seen, that one part is for carriages, and the other a stable for horses, with several closets for oats, harness, saddles, whips, curry-



combs, carriage grease, &c. A part of these may be omitted, and more room left for carriages.

The perspective view (fig. 99) will be understood without much explanation. The part exhibited faces the dwelling, or the more frequented

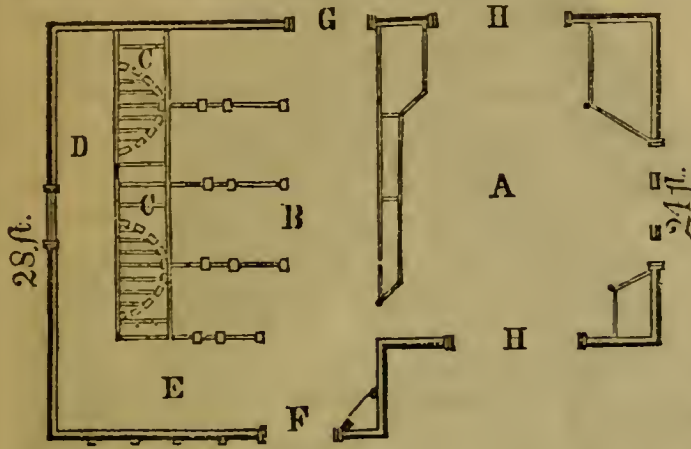


Fig. 100.

part; the back is mostly hid by trees. There are two false doors on the stable part, to add to the appearance, the actual entrance being near the corner. The chimney ventilator is an essential part. It should be remarked that the brackets, door-frames, projecting eaves, &c., are all made substantially of three-inch plank.

In the plan, (fig. 100) A is the room for carriages, B for horses, there being four stalls, the mangers C C containing two upright semi-circular racks for hay. The passage D, for feeding horses, is three feet wide, and E, three and a half. F is the entrance door to the stable, and G the manure door. The carriage-house doors H H, are each 8 feet wide, consisting each of two four-foot-wide doors. The height, 15 feet, leaves a spacious chamber for hay, the larger entrance to which is nearly over the manure door, G, and not shown in the view.

**CARRIAGE-HOUSE TO ACCOMPANY A GOTHIC DWELLING.**—The accompanying well arranged and convenient plan of a carriage house and stable, possessing Gothic characteristics, was first given in the *Horticulturist*:—

This stable (figs. 101 and 102) is intended to produce a picturesque effect externally, and to contain internally all the convenience demanded in a building of this class. The central portion contains the carriage-house, with space for four vehicles, and a harness-room at the end of it. On one side of this is the stable—the stalls  $5\frac{1}{2}$  feet wide, with rack supplied with hay through wells, over each rack, in the floor of the hay-loft above. A flight of stairs leads from the end of the stable to the hay-loft above, and is placed here in order to prevent any dust from the hay-loft from finding its way into the carriage-house. On the side of the carriage-house are a tool-house and work-shop. All the doors in this stable slide upon iron rollers running upon a piece of plain bar iron above the door. These iron rollers are attached firmly to the door by iron straps, and the door, being thus suspended, not only runs much more easily and freely than if the track were at the bottom, as is usually the case, but the track is not liable to get clogged by dust or other matters falling upon the floor.



Fig. 101—CARRIAGE HOUSE AND STABLE.

0 5 0 10  
FEET

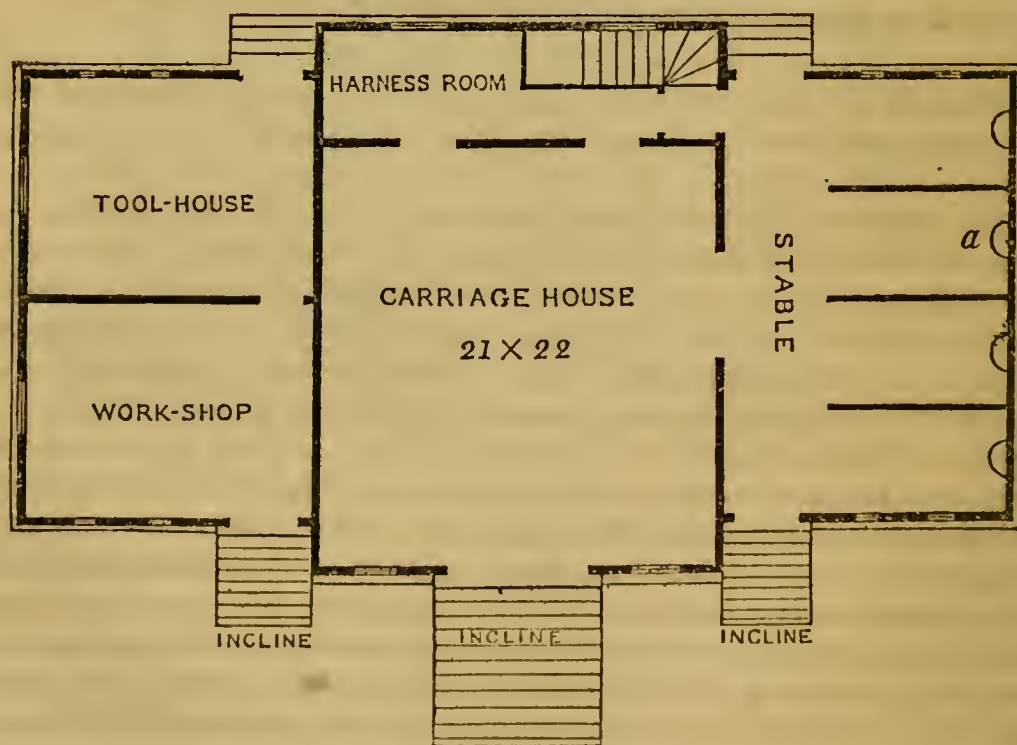


Fig. 102--GROUND FLOOR.



Besides this, a sliding door in a stable, when opened, gives the largest possible egress in a given space, and can never stand in the way to the injury of horses or carriages passing in or out on either side.

The high roof of this building gives a good deal of room in the hay-loft, and the ventilation at the top keeps this space cool and airy at all seasons. The whole is built of wood, the vertical boarding battened in the ordinary manner.

**A SHEEP-BARN.**—The barn here represented (fig. 103) is used by S. W. Jewett, of Weybridge, Vermont. It has two floors, thus doubling the accommodations. Such a building, 18 by 26 feet, with thirteen-feet posts, will afford room for two flocks of 60 each, including the space occupied by the feeding boxes. The apartments are lighted by side windows.

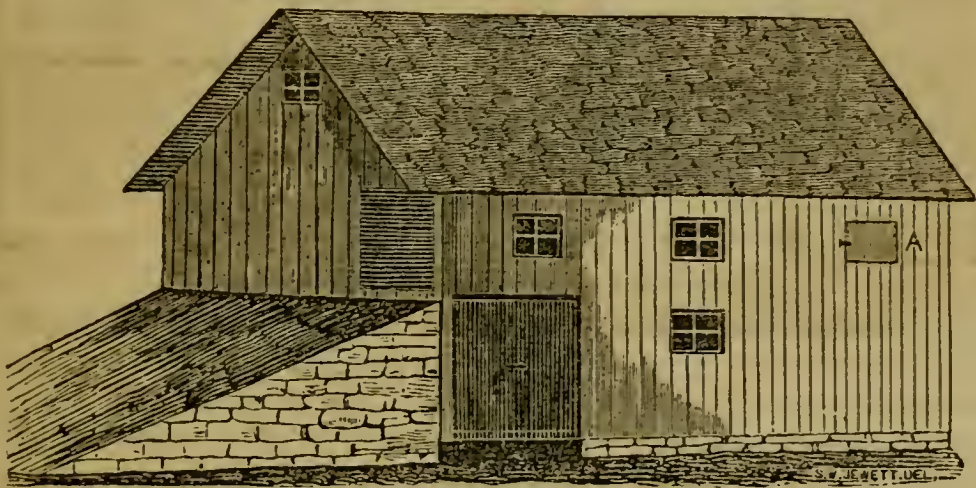


Fig. 103—Two-STORY SHEEP BARN.

“Some of these sheep-barns,” observes S. W. Jewett, “I build of sufficient size to contain hay at one end. The cut here given shows one of this class, 25 by 34 feet; 12 feet at one end is occupied for storing hay; the door represented at A is the pitching hole. The basement is constructed with double doors of sufficient width for backing in a cart or sled. To accommodate in loading the manure from above, we raise a plank in the floor. Some of these sheds are erected near our hay-barns, where we can take advantage of the rising ground to obtain access for the sheep to the upper story. At other places the ground is artificially raised at one end, as in the accompanying draft.” It is proper to remark that the upper floor should be so tight that the manure and urine should not fall on the sheep below, as it would injure their fleeces.

**CHESTER COUNTY BARN.**—A correspondent in Chester county, Pa., gives the following minute description of a large and commodious grain, hay, and stock barn, which combines many important advantages:—

Such a barn will require a locality inclining towards the south. Let the main barn, facing southerly, be 60 feet long and 40 wide, with a lean-to overshot extending in front 20 feet. I estimate this to contain near 100

tons of hay, &c.; then let hay-houses extend 20 feet in width and height, in the form of an L, from the west end of the barn, of such length as to afford the additional storage necessary—say forty feet each.

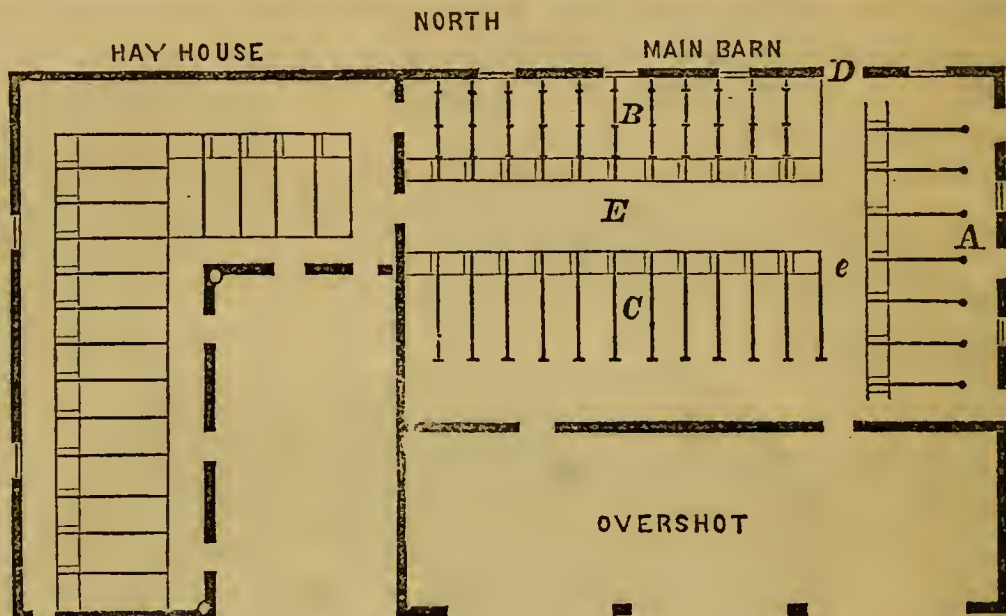


Fig. 104—PLAN OF STABLES IN BASEMENT.

The ground floor of the main barn to be divided into stabling, is represented in fig. 104. A, horse stables, 12 feet in depth, with mangers  $2\frac{1}{2}$  feet wide for hay, and small troughs at the side of each stall, for grain. B, cattle stalls, hung with swinging gates, opening sideways. C, the same, but each stall having a separate gate entering direct from the yard. E, main entry, 8 feet wide, to hold feed-chests, &c.; e, entry 5 feet wide, with steps up to door D, at the north end, and having an entrance into the horse stables at each end, the entries to be laid with small stone and mortar; the remaining space under the barn and overshoot to be open to the yard, and furnished with box cribs, so that out-door stock can have their fodder placed under shelter in stormy weather; in cleaning out stables, the manure may also be placed under here for protection from the weather.

If additional *stall* room is desired, the twenty-foot hay houses might be divided by a five-foot entry on the outside, and stalls opening to the yard, as C; or the under story might be open to the yard, as additional shelter to stock and manure.

Fig. 105 gives the elevation of the west end of the main barn, 40 feet; overshoot 20—the former having in front the large doors, 16 feet, and bridge wall; height to the square, 30 feet—to the second floor, 8 feet; this covers a granary extending through the center, 14 feet wide, boarded at the sides, and the hay-bins each side of it, 20 by 60 feet. It is lighted by two windows in front, and has a door and window at the north end. It is partitioned on one side into bins for grain; the front end included



in the overshot will make a good work-shop. The third or threshing floor, eight feet higher, extends 14 feet in width (same as granary, which it covers,) from the bridge-wall to the front of overshot, and is lighted

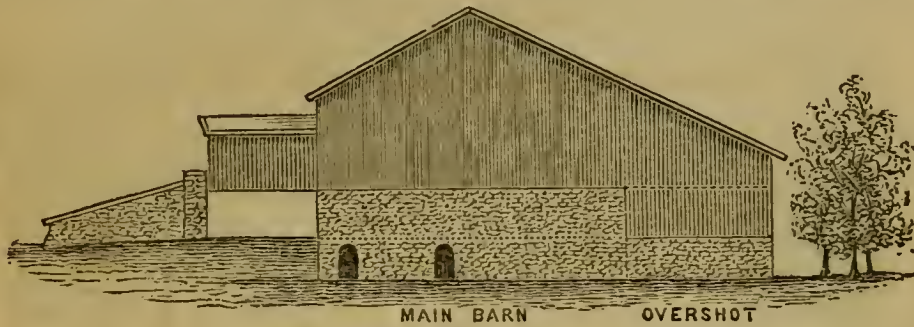


Fig. 105—END VIEW FROM THE WEST, BEFORE THE HAY-BINS WERE ADDED.

by a small dormer in front of overshot—(this may be scaffolded over head after the side mows are filled, for grain,) the large doors at the north end opening into a dormer covering the space between the bridge-wall and barn. Each of the *main* hay mows should have a funnel four feet square, to pass hay to the entries below, and each of the overshot mows one to the yard. Grain from the threshing floor is passed into bins in the granary through three-inch square holes, stopped with wedge-shaped plugs.

And now, as to the advantages of this plan, which I believe are greater than embraced by any other that has come under my observation. Roofing is one of the most expensive parts of building—here is the greatest amount of storage, stabling and other accommodation, under the same surface; the hay not descending to the ground floor, is less liable to be affected by damp, and affords a much less harbor for rats and other vermin. In the hurried season of harvest, produce can be disposed of in the deep bays in one-fourth of the time required to pitch it upwards, and in winter can be dropped *immediately* where wanted below—while the stables can all be shut tight in cold weather, to keep them warm. The hay funnels act as ventilators to carry off impure air; grain, when threshed, is put away in the granary without any labor of bagging and carrying; the horse stables are entered without passing through the cattle-yard, and the cattle stalls are as conveniently arranged as in other plans. The space under the bridgeway may readily be converted into a carriage or wagon-house; hay-houses, as proposed, or sheds in their place, would afford comfortable protection from north and west winds. I suppose the main barn to be built of stone at least as high as the third floor, except in front; the overshot may be of frame, on pillars level with the granary floor, or its ends may be a continuation of the barn walls. The above general plan, varied in size and details, receives the general sanction of the practical farmers of Chester county.

**GRANARY AND WAGON-HOUSE.**—The accompanying excellent plan was furnished by T. B. ARDEN, of Putnam Co., N. Y., for the Country Gen-

tleman, and the building it describes would prove a valuable one for every large grain farm. The following is his description:—

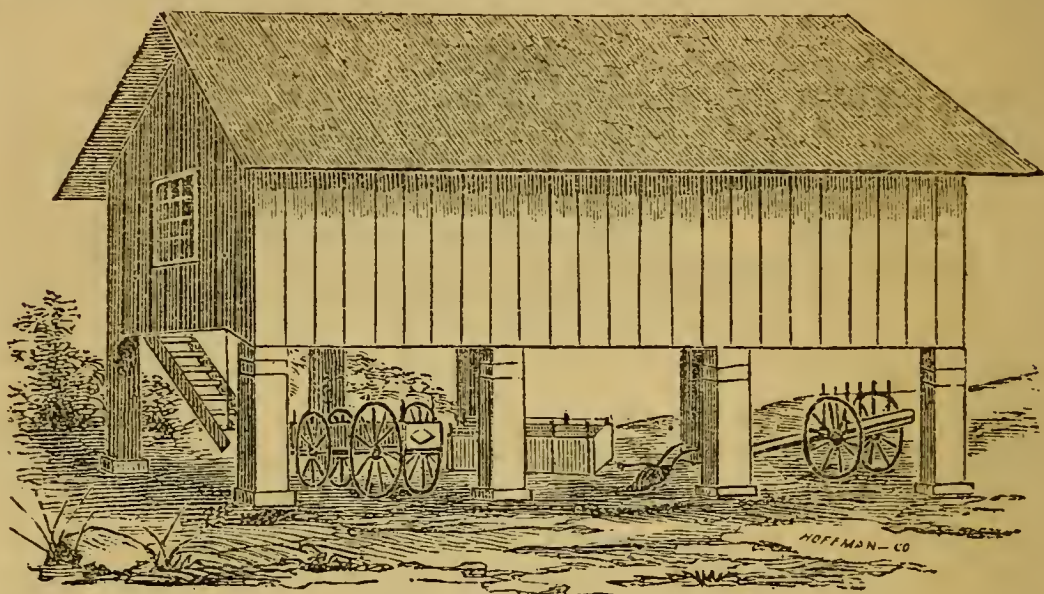


Fig. 106—GRANARY AND WAGON-HOUSE.

You will observe the posts are placed upon blocks of granite. These are sunk three feet in the ground, and rise fifteen inches above it; the former is to resist the action of frost; the latter to prevent decay in the foot of the post, from the effects of moisture from the earth, this having been determined as the necessary height.

*Directions for Building.*—Building to stand north and south, for purposes of ventilation.

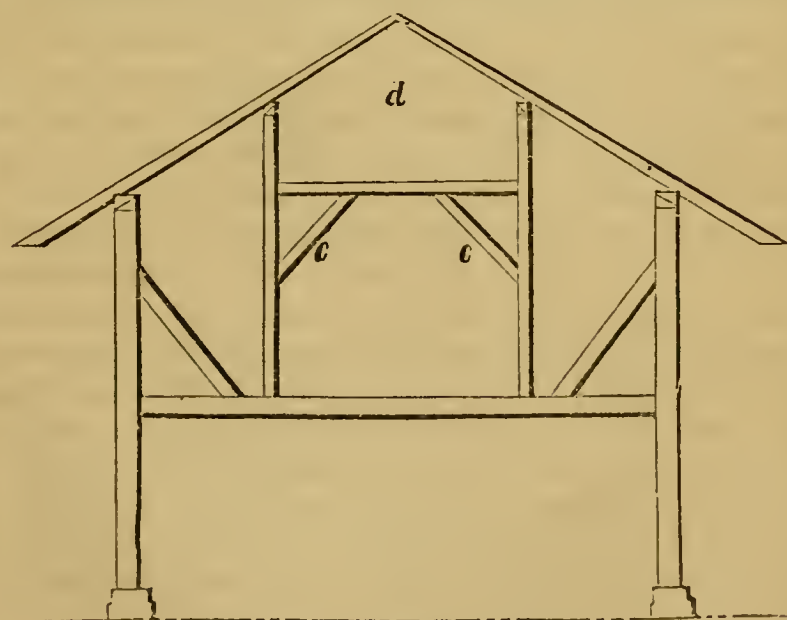


Fig. 107—ELEVATION OF END.

One window in each end, 12 lights 9 by 12, under gallows girt. The space *d*, (fig. 107,) in elevation of end, to be floored for storage purposes. The braces *c, c*, to be dispensed with in the two middle bents.

The bins to be lined with half-inch stuff, jointed only. The bin posts should be plowed,

that the bin boards on the hall may be taken out, or slide freely up and down to lessen the labor of filling and taking out grain.



The floor timbers should have a slight camber on the upper edge, to prevent the floor from becoming concave by the burthen it may have to sustain. The building should be well framed, to enable it better to resist the force of the wind, to which it is very much exposed by its peculiar build.

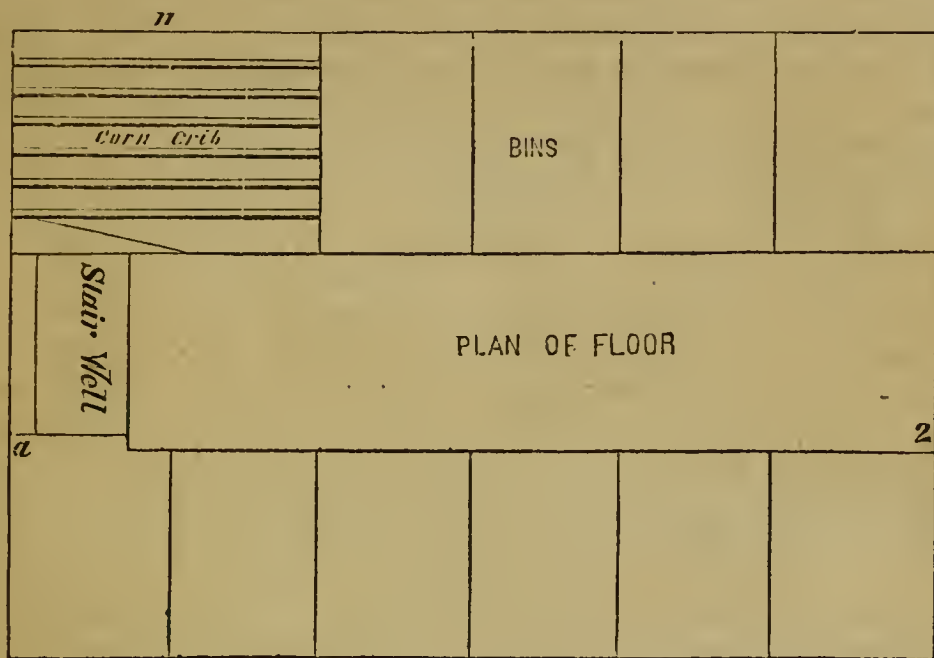


Fig. 108.

The posts are to be provided with a belt of tin one foot below the inter-ties.

The siding of the corn-crib at *n*, (fig. 108,) to be made of strips,  $2\frac{1}{2}$  inches wide, and placed one inch apart, same as floor.

The corn-crib should be placed in the south-west corner, if possible, or better perhaps, in that exposure which would best protect it from the prevailing storms of the district of country.

The stairway is closed by a trap-door, the steps hung between the two first-floor timbers, which are placed three feet apart for that purpose; hooks are secured to the end of each side strip, and caught into staples on the inside of the timbers. These serve as hinges; and the other end is sustained by a counter-weight, when they can be let down or put up at pleasure, thus cutting off access to rats and mice.

**CARE OF BEES.**—Bees should be examined once a week all winter, to see if all is right. This is much easier than to attend to pigs, sheep and cattle three times a day, which no good farmer complains of. What is termed *luck* with bees, is another name for careful and skillful management.

## VARIOUS FACTS IN TILLAGE.

DEPTH OF SOWING WHEAT.—Wheat may be sowed too shallow as well as too deep. The depth must vary with the nature of the soil. A thinner covering is required in a close heavy soil, than in one light gravelly or sandy. The following experiments were made by Petri, the results of which would vary with the moisture or dryness of the soil. They are given as a specimen of trials of this kind, which if often repeated by farmers, would afford them much valuable information.

Seed sown to a depth of	Appeared above ground in	Number of plants that came up.
1-2 inch .....	11 days.....	7-8ths.
1 " .....	12 " .....	all.
2 " .....	18 " .....	7-8ths.
3 " .....	20 " .....	6-8ths.
4 " .....	21 " .....	1-2.
5 " .....	22 " .....	3-8ths.
6 " .....	23 " .....	1-8th.

GOOD ROTATION.—A successful farmer, who has enriched his farm, while he has enriched himself from it, pursues the following course: First, he takes especial pains with MANURE, wastes none, saves all, mixes well in the yard, (not by forking over, but) by a proper distribution of straw, stable cleanings, &c. Next, he makes corn his leading crop, as affording both grain and fodder, and as being all returned to the soil, in feeding all to animals, except what is sold in beef, pork, &c. The *first year*, the corn has all the manure in spring, at about 25 loads per acre. The *second year*, oats, barley, or spring wheat follows. In the autumn, sow winter wheat, which constitutes the *third year's* crop. This is sowed down to clover, which (being plastered) constitutes the *fourth* and *fifth year's* crop in meadow or pasture.

THE WHEAT CROP IMPROVING.—John Johnston of Geneva, N. Y., is one of the best farmers in the country. He first of all UNDERDRAINS; he then feeds his land well (with manure) and this enables his land to feed his large herds of animals; their manure feeds the land again; and both feed him and fill his pockets. He said, at the close of the year 1856, after all the unusual disasters which had happened to the wheat crop for some years previously, "*My own wheat crops for the last eight years, have averaged more than they ever did in the same length of time for thirty-five years.*" The reason he gives, he has sown *no wheat on undrained land*—added to the good farming described above.

GRASS LANDS.—No farmer should be satisfied with less than two tons of hay per acre from his meadows, and his pastures should be as good. There are several means of improving grass lands. If the land is wet, springy, or holds water in the subsoil, it should be drained. This may be easily determined by digging a hole two feet deep in spring of the



year, and if underdraining is needed, water will stand in it. We have known meadows greatly improved by draining. Next in order, are manuring and deep plowing, for previous crops. Last, but not least, is heavy seeding. We have succeeded in doubling the product of grass, by quadrupling the seed—and this paid well. We have known five tons of hay per acre, by sowing a bushel of seed per acre.

HEAVY DIVIDENDS.—If one of our railroads should be known to pay *thirty per cent.* dividend annually, from its regular earnings, and the stock could be bought at par, what a furious rush would be made for it! Yet there is a way that farmers may invest in stocks at home, on their own lands, that will pay thirty to fifty per cent. yearly. This is in systematic *tile-draining*. We have known many who have tried it, and they generally say that it is paid for by the increased crops in two years. They are *good farmers*, however.

HEAVY AND LIGHT POTATOES.—A. B. Dickinson states in Moore's Rural New-Yorker, that the *heavier* a potato, the less liable it is to rot, without regard to the age of the variety or its color. He tries their specific gravity by brine, of different degrees of strength, in as many vessels, some sorts of potatoes sinking quickly while others float. The only exception to this rule is the "Irish Cup," a heavy potato, but more liable to disease than any other of its weight.

PLOWING WET LAND.—Underdraining is the great cure for the evils of wetness—but when underdraining has not been performed, it is important to know what is next best. Sward ground may be always plowed wetter than any other, without subsequent baking. Other land may be plowed when considerably wet, if it is left to dry before the harrow touches it; indeed it will generally dry more rapidly after plowing than before, if not plowed too wet. Plowing always tends to loosen the earth; and harrowing to render it more compact unless dry enough to crumble. More caution is therefore required not to harrow wet land, than in any other process of cultivation.

CHEAP FARM-LABORER.—Farmers find it difficult to get laborers; but there is one chap, who so far as he goes, is an admirable workman, whose services may be had for nothing. This is Jack Frost—who if allowed to operate, will reduce much hard, clayey soil of autumn, into a fine mellow condition by spring, if turned up by the plow for his harrow to pulverize. This tool of his is remarkable for its myriads of fine, needle-like teeth, which enter between the minutest particles and tear them asunder into powder.

LONG AND SHORT MANURE.—One great objection to using fresh or unfermented manure, is the difficulty of working its long fibres into the soil, and *mixing it finely with the earth*, a most essential operation. All these difficulties are surmounted, by cutting all the straw used for bedding. It need not be cut very short. If all the corn-stalks fed to cattle,

were first cut finely with a machine driven by horse power, the animals would eat much more, and there would be none of that peculiarly unmanageable manure occasioned by large corn-stalks. A friend of ours cuts all his stalks with a four horse power—an hour's cutting lasting a long time—and finds great profit in it every way.

**VALUE OF STRAW IN MANURES.**—It is found by careful chemical examination, that different kinds of straw possess quite different values, to work up into manure. This relative value is very nearly determined by the quantity of nitrogen they contain. Barley straw is the poorest of all; oat and rye straws are about one-third better; wheat is nearly double in value to barley; buckwheat is rather better than wheat; meadow hay and corn-stalks are far ahead of any of these, being five times as rich in nitrogen as barley straw; and red clover hay and pea-straw are each about eight times as rich as barley. Whether these substances are mixed directly with manure, or eaten first by animals, they produce their relative effects.

**MANURE ENRICHED BY GRAIN.**—Nearly every farmer is aware that the food controls the quality of manure, and that, for instance, dung from horses fed high on oats is quite a different thing from the droppings of grass-fed horses. Some kinds of grain contain more nitrogen than others, and of course impart more fertilizing power to the manure. Barley is the poorest, Indian corn a little better, and oats better than either by about 20 per cent., the three not being very unlike.

**HARROWING INVERTED SOD.**—Farmers often find harrowing inverted sod to tear up the turf, and make grassy tillage. The double Michigan plow is a perfect cure, but not always at hand, and sometimes it may not be advisable to use it. Grass land which has been inverted by the common plow late in autumn, and which has been underdrained or is otherwise dry enough, may be harrowed very early in the spring, without the least disturbance of the sod, if done when only a few inches of the surface has thawed, and while the grassy portion of the sod is chained fast by ice.

**GARDEN ROTATION.**—The following enumeration of the different families of garden vegetables will enable the gardener to plan a rotation, so that similar plants will not occupy the same soil in successive years—those classed together should not succeed each other.

1. Peas, beans.
2. Cabbage, cauliflower, brocoli, turnip, radish.
3. Carrot, parsnip, parsley, celery.
4. Potato, tomato, egg plant.
5. Cucumber, melon, gourd, squash.
6. Lettuce, salsify, endive, chicory.
7. Onion, garlic, shallot, leek.



## IMPROVED DOMESTIC ANIMALS.

Although some of the finest imported specimens of domestic animals have been purchased at high, and apparently very extravagant prices; yet there is probably no way in which an expenditure of money effects a more extensive benefit, by diffusing and multiplying improved blood throughout the whole country, than by the introduction of these animals, however unprofitable it may prove to the importer or owner.

Accurate and well executed portraits of fine animals, assist in forming the judgment for deciding on their merits, and impart valuable information through the medium of the eye, as to their character, to those who cannot avail themselves of the sight of the animals themselves. With this object in view, the readers of the Register are furnished with representations of a few select specimens.

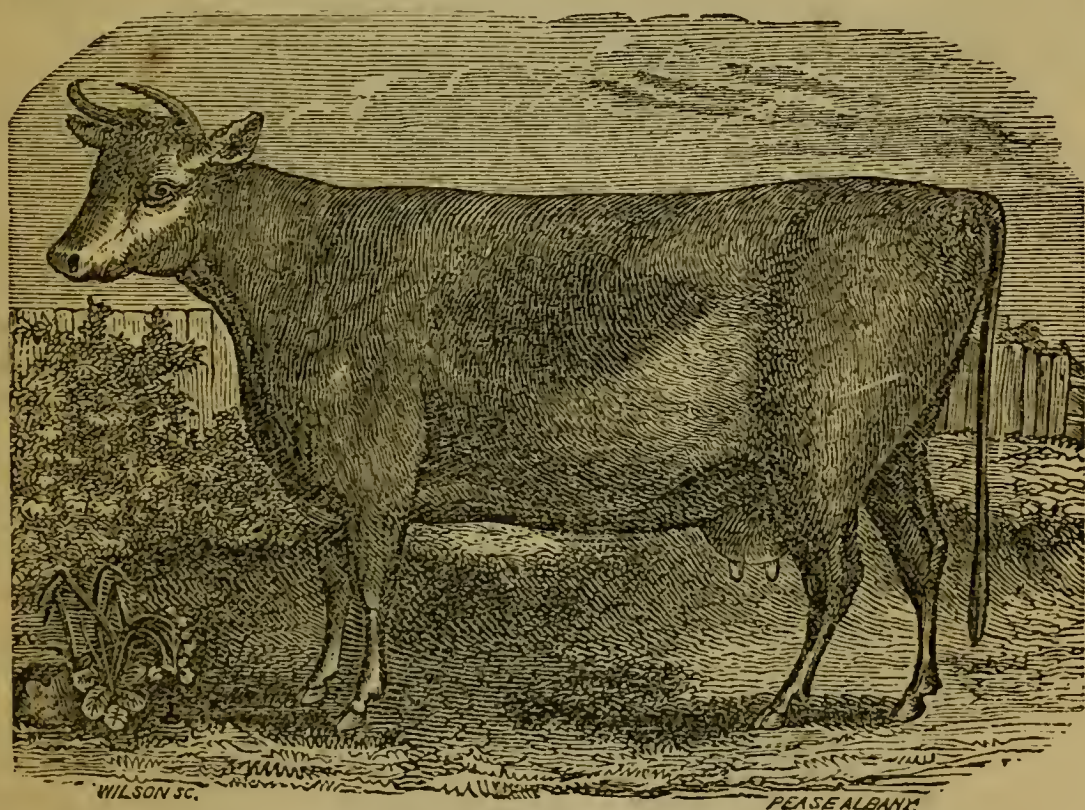


Fig. 109—IMPROVED JERSEY COW.

The above figure is a portrait of Col. Le Conteur's celebrated cow "Beauty," of the improved Alderney or Jersey breed, which are a great improvement on the old Alderney cattle. This cow produced 11 lbs. 13 ozs. of butter weekly—giving 19 quarts of milk daily. Larger products have been obtained from some other individuals of this breed—a breed remarkable for the richness of the milk they afford.

The SUFFOLK cattle, although less highly improved than some other





Fig. 110—SUFFOLK COW.

breeds, have some desirable qualities. They are one of the best of all the hornless cattle, and have been long noted as furnishing some excellent milkers; authenticated instances having occurred where thirty quarts have been given in a day.



Fig. 111—SILESIA MERINO SHEEP.

SILESIA MERINO SHEEP—(Fig. 111.)—The admirable representation exhibited in this cut is engraved from an accurate daguerreotype likeness. This kind of Merino is remarkable for its fineness of fleece, being scarcely inferior to the Saxons, without a corresponding diminution in the weight.



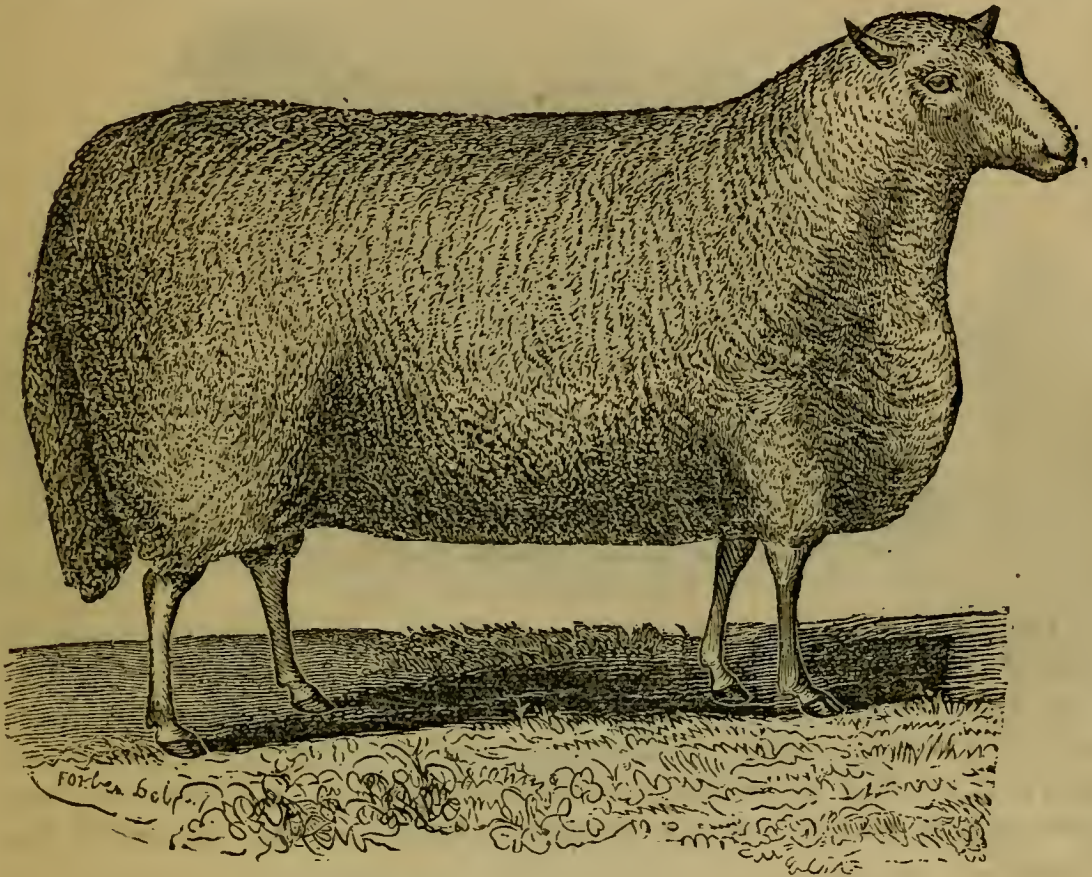


Fig. 112—CHEVIOT RAM.

In a flock belonging to Geo. Campbell of Vermont, after very thorough washing, they were found to average 4 lbs. 5½ ozs. per head.

CHEVIOT RAM—(Fig. 112.)—Since much of the profit of sheep-raising in some places arises from the sale of mutton and lambs, more attention is directed to the larger, coarse-wool breeds. Their crosses with some of the hardier Merinos have proved profitable animals. The Cheviot breed does not appear to be much known in this country; yet their success on the cold mountains where they have been chiefly raised, induces the

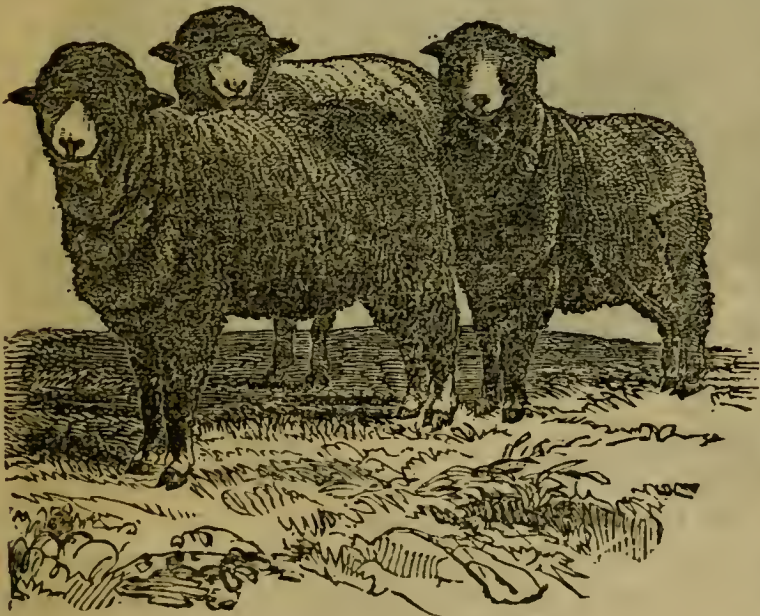


Fig. 113—FRENCH MERINO EWES.

belief that they are worthy of more attention.



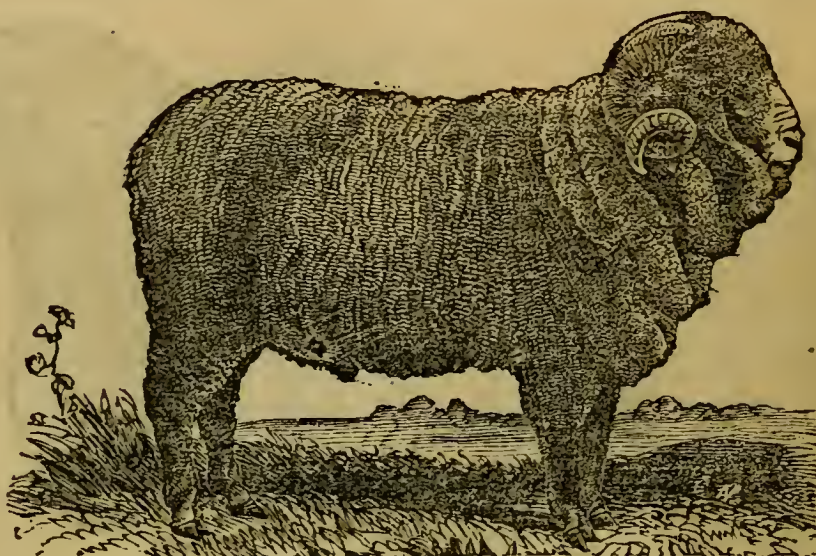


Fig. 114—FRENCH MERINO RAM.

FRENCH MERINO SHEEP AND RAM.—The annexed cuts represent imported French Merinos, belonging to G. Campbell of Vermont. The ewes (fig. 113) weighed about 125 pounds each. Their fleece averaged about 12 pounds each. The ram (fig. 114) when figured, was three years old, and weighed the winter previously 261 pounds. His fleece was one year old, and after losing a portion on the sea voyage, sheared 20 lbs. 12 ozs.

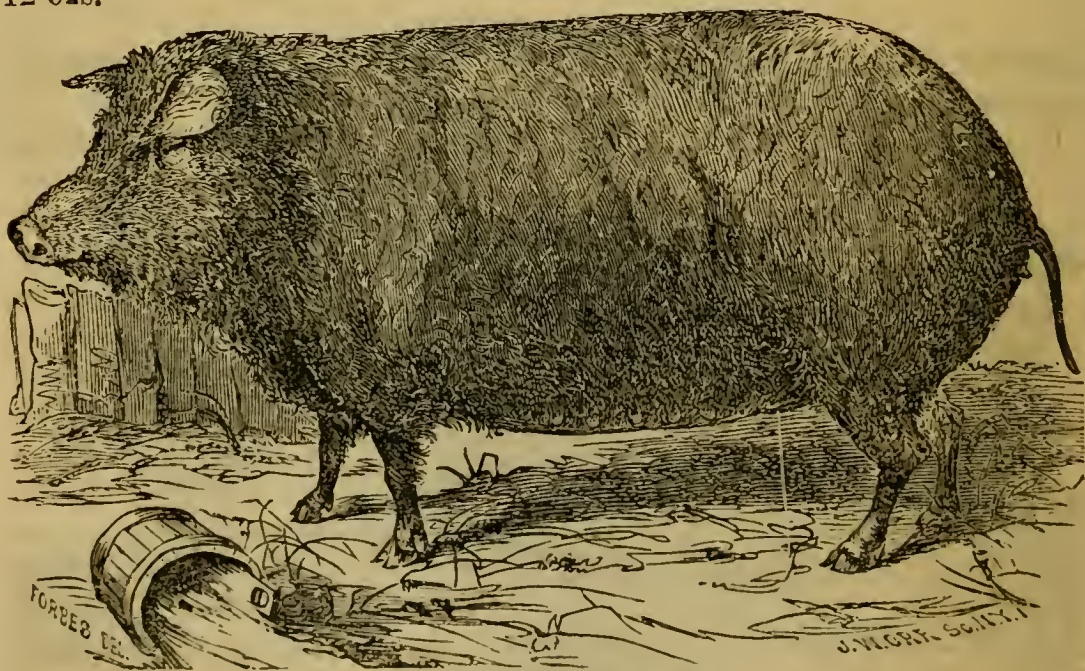


Fig. 115—PORTUGUESE SWINE.

PORTUGUESE SWINE—(Fig. 115.)—The Portuguese much resemble the Chinese, except in color. Several importations have been made; and among the rest those belonging to A. E. Beach of New-York, from which the engraving is made, are of a dark red.



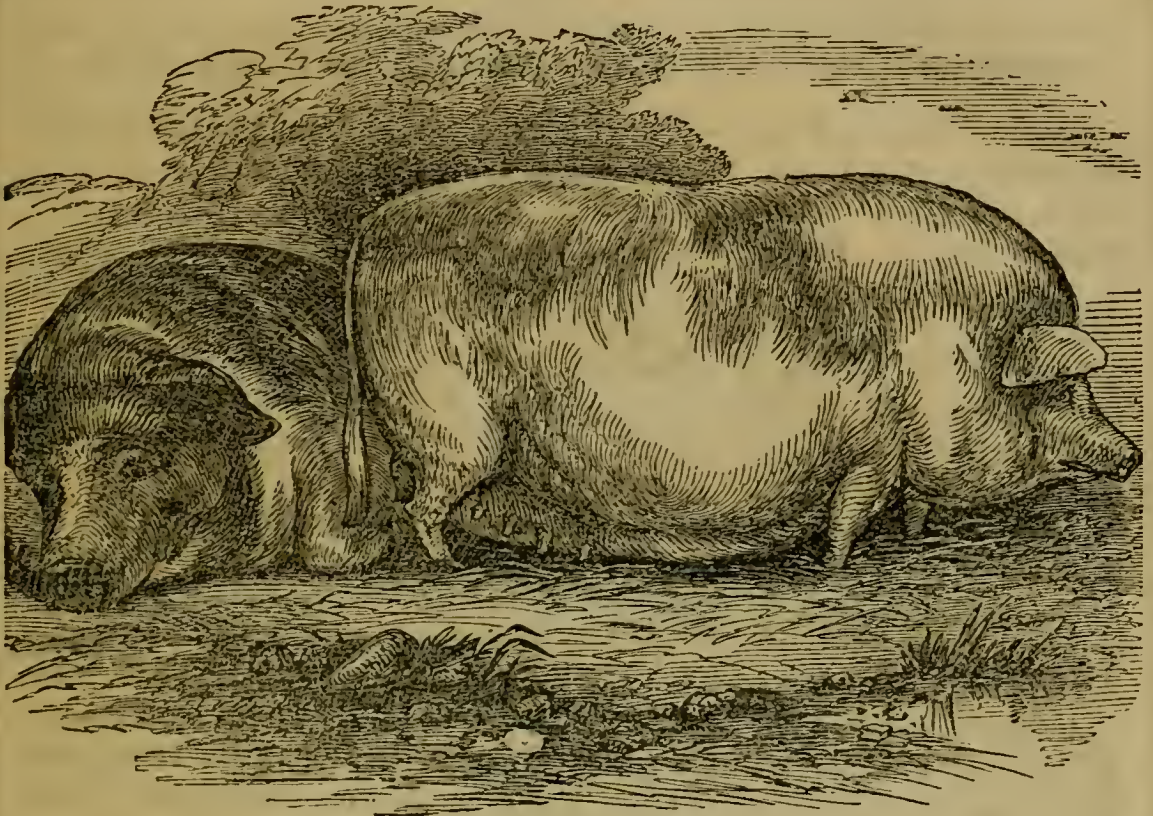


Fig. 116—CHINESE SWINE.

CHINESE SWINE—(Fig. 116.)—There are several distinct varieties of swine in China, some of which have a remarkable tendency to fatten, and have been the source of the principal improvement which has been made in the aboriginal stocks of Great Britain, from whence most of our stock has been derived. The Chinese swine are frequently very prolific, producing from twelve to fifteen pigs at a litter. One of those herewith delineated, was suckling thirteen pigs when the portraits were taken.

[In previous numbers of the REGISTER, portraits have been presented of Short-horn, Devon, Hereford, Ayrshire and Alderney cattle; of Black Hawk and the English cart horses; of South Down, Leicester, Spanish and French Merino Sheep; and of Suffolk, Berkshire, Essex and "Land-pike" pigs—also several articles on their care and management, and on the prevention and cure of the diseases to which they are most frequently liable.]

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GRINDING OR CRUSHING FOOD.—Chemical experiments have proved that the outer skin of grain is nearly insoluble by the gastric juice of animals. Hence, when grain passes through them whole, it imparts but a small portion of nutriment to the animal. But if only broken before feeding, or by mastication, the whole of the kernel is digested, and the skin only passes away.

## EXPERIMENTS IN FEEDING ANIMALS.

**SELLING CORN IN PORK.**—If the farmer can get as much for his corn by first making it into pork, as by a sale of the grain itself, it is best to convert it to flesh, provided the manure is worth more for his land, than the labor of feeding. Hunt's Merchant's Magazine gives several experiments, showing the cost of pork-making. In one, 100 hogs were fed 100 days with as much corn as they could eat, and each bushel of corn gave an increase of 10 1-2 lbs. of animal, or 8 2-5 lbs. of dressed pork; or in other words, 1 lb. of pork required 5 3-4 lbs. of corn. In another experiment with 58 hogs, 1 lb. of pork required 6 1-2 lbs. of corn. The corn was fed in the ear.

According to these experiments, 3 cents per pound for pork is the same as 25 cents per bushel for corn; 4 cents per pound is 33 cents for corn; 5 cents per pound is 42 cents per bushel; and 6 cents per pound is 50 cents for corn. This would not *pay* in many places, without fattening hogs mainly on apples, which many farmers do at a great profit.

A smaller experiment was made with *cooked meal* which required a little less than four pounds for a pound of pork. (We know several farmers who *estimate* cooked food as twice the value of unground grain.) Different breeds would doubtless give quite different results.

We want many experiments of this kind—the knowledge thus acquired would be worth in practice many times its cost. Why do farmers keep blundering on in the fog of guess-work?

**ANOTHER EXPERIMENT WITH FEEDING HOGS.**—Six hogs were shut up to fatten the first day of autumn; they were fed one month on 29 bushels of corn (58 bush. ears) and increased 386 lbs., or 12 2-3 lbs. gross weight, for each bushel of corn. The next month they were fed 68 bushels, and gained 336 lbs., or 10 lbs. per bushel. The last month they consumed 56 bushels and increased 272 lbs., or nearly 10 lbs. per bushel. This result was quite similar to the first-mentioned above, and this may be taken as about the average results of judicious feeding in the ear.

**FOOD CONSUMED BY COWS.**—Prof. S. W. Johnson says that according to experiments made in Bavaria, cows to give the greatest quantity of milk, must consume daily one-thirtieth of their live weight in hay, or other food of equivalent value. More food increases flesh and fat, and less diminishes milk.

**RULES FOR FATTENING ANIMALS.**—1. Let them have good, clean, nourishing food. 2. Feed them with the utmost regularity as to time—for “hope deferred” wastes flesh by fretting. 3. Feed often, and never give a surplus. 4. Let the pen or stable be kept clean and sweet—dirt or filth is always adverse to thrift. 5. Let the air be fresh and pure. 6. The water they drink must be pure. 7. They should have *rest* most of the



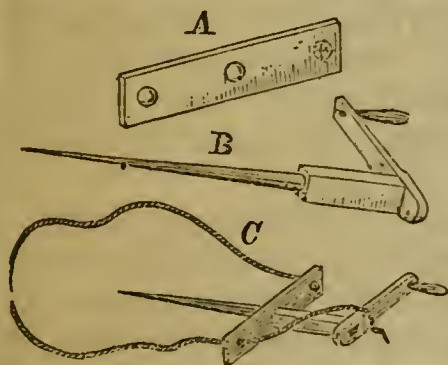
time, and only very gentle exercise. 8. Keep them tranquil, and avoid fright and anxiety. If all these are carefully observed, they will make a vast difference in results.

## RURAL ECONOMY.

**RULES FOR CONSTRUCTING HORSE STABLES.**—1. For good ventilation, and to prevent horses striking their heads in any case, against the roof or floor above, the height should not be less than nine feet. 2. From the manger backwards, the floor should descend at least one inch in four feet. 3. Each stall should be five and a half feet wide, and fourteen feet long including the whole space behind the horse. 4. The partitions, made of strong plank, and scantling frame, should extend back eight feet, and be seven feet high at the head, and five feet at the rear.

**SIMPLE QUESTIONS AND SIMPLE ANSWERS.**—Is there any farmer who never used an old rusty hoe, and a smooth and bright one, without observing the great difference in the amount of work he could do by each? Two hours more each day for the bright one? This would be five days for every month of hoeing. What does this fact teach? It teaches the importance of keeping tools in their places, well sheltered from the weather, and to have them brushed clean and bright whenever they are put away.

**CORN SHOCKS.**—A great deal of good corn-fodder is spoiled, because the shocks are not well bound together, and storms soon throw them



**Fig. 117—CORN-SHOCK BINDER.** Large shocks of the husked stalks may be firmly secured, by first bringing them firmly together with a rope, attached to a simple contrivance shown in the annexed figure. A small piece of board, A, has three holes bored through it; and a sharp, round, and tapering stick, B, has a crank attached. One end of a ten-foot rope, is then passed through one hole and fastened to the crank; the board is placed against the shock, the sharp stick thrust through into the shock, and the rope passed around the shock, and hooked on an iron hook at the other hole, as shown in C. A few turns winds up the rope, binding the whole closely together, when a band is placed around, and the rope unhooked for the next.

**ANIMALS IN WINTER.**—Farmers do not sufficiently sub-divide their yards in winter. Large and small animals are turned in promiscuously together, and as every farmer knows, the larger ones are very ferocious and domineering towards those much inferior, but careful not to provoke

the wrath of such as are nearly equal. Turn those together which are of similar size, and they will be more quiet all round. Calves generally are too much neglected,—and come out small and puny in spring. A good manager has constructed a spacious stable for calves in one of his sheds, moderately lighted, and well sheltered from all currents of wind. This apartment is kept clean, the calves fed on good hay, and supplied with good water. They present a very different appearance from other calves in spring.

**FILLING ICE-HOUSES.**—A good deal of labor is sometimes lost, by not adopting the easiest mode of lifting the ice out of the water. After the blocks are sawn in the water, (which should be done by accurate mea-



Fig 118—DRAWING ICE OUT OF WATER FOR ICE-HOUSE.

surement, so that all may pile up solid, like hewn stone, and leave no crevices,) they are very easily and quickly drawn out by means of a light, stiff plank, having a cleat across one end. This plank is thrust with its cleat end into the water, and under the block of ice; the cleat holds it, when the plank is drawn forward, and thus lifts it out.

**TO BUILD COMMON RAIL FENCE.**—Begin at the bottom of all hills or ascents, and build up—this will make the fence stand much better against the wind and all disturbing causes.

**PLANTING TIMBER LAND.**—It is said that thirty years, at the present rate of cutting and slashing, will sweep off all trees fit for lumber east of the Mississippi. We must raise young timber. If we allow second growth to spring up, ten acres of fertile land, *well managed*, will supply a family with fuel: five more will fence a medium farm. On poorer soils, more will be required. It is to be cut once in twenty years.

But in spontaneous growth, we have not a choice of the best timber—we have to take it as it comes, good and bad. It is better, also, to plant *in rows*, and then a wagon may be driven easily through any part, in drawing out the timber. Plant alternate rows of locust, chestnut, and European larch. If one does not happen to succeed well, the others will have a chance, and the land will still be occupied.

By planting in rows and cultivating the trees while young, they will grow five to ten times as fast. They may alternate with hills of potatoes or beans on the start, and two rows of potatoes between each row of trees. The next two years the same, or keep the ground clean, mellow, and bare. Then corn, if the trees don't shade all the ground, as they probably will.

Locust seed will not grow, unless boiling water is poured on, and allowed to remain some hours. The swollen seed will grow; the rest must be



scalded again. Chestnuts will not grow if the shell becomes dry—keep them moist from the first and they will. Both should be planted in hills like corn, and thinned out, but not transplanted. European larch may be had cheaply from English nurseries.

**SHELTER.**—There is one truth which every farmer who ever winters a herd of any kind of animals, should fully appreciate,—and that is, that “*Shelter is cheaper than fodder.*” Exposed animals will consume a third more food, and come out in the spring in worse condition. The loss of animals by death in wintering, when suffering from all the severities of piercing winds, drifting snows, and cutting sleet, is sometimes greater in two or three years than the cost of substantial and comfortable buildings for protection; and the loss of fodder consumed in any case, would in a few years pay for their erection.

**DOUBLE-MINDED FARMERS.**—One great principle for success in business, is learning a trade well and then sticking to it. It requires a long time to know everything connected with successful business. An acquaintance, a seed-dealer, stated that for the first five years, he could not ascertain that he made anything. But he was learning. Before ten years, he was clearing five thousand dollars per year. Another was doing well in manufacturing ropes. But he was unstable in mind, and although his friends advised him to “*hang to the ropes,*” he was not getting rich fast enough, and he meddled with business he had not learned sufficiently, bought a mill, bought grain, and then broke a bank by his large failure. Some farmers come to the conclusion that *cows* are the most profitable; purchase animals, erect buildings, and begin well. But being new business, they do not succeed as they expected; they might, if they would stick to it. The next year they sell their dairy, and buy sheep. The price of wool is low that year; and they hear that much money has been made by raising tobacco. Thus they go on, changing from one thing to another, and never succeeding in any. Stick to your business.

**TO MAKE HENS LAY IN WINTER.**—Provide,

1. A comfortable roost;
2. Plenty of sand, gravel and ashes, *dry*, to play in;
3. A box of lime;
4. Boiled meat, chopped fine, every two or three days;
5. Corn and oats, best if boiled tender;
6. All the crumbs and potato parings;
7. Water, not cold, or blood warm.

This treatment has proved quite successful—and hens which, without it, gave no eggs, with it immediately laid one each, on an average, every two days.

**FEEDING BEES.**—Honey in the comb is best for this purpose; next, strained honey, if not too old, poured over empty comb; next two pounds of sugar with one pint of water, heated to boiling to remove the scum,

and then poured over comb. To feed, take them into a room or dry cellar, turn the hive bottom up, cover it with a porous cloth to admit air, then gently move the cloth and place the comb within, and the bees will feed from it. Once a week, turn the hive gently back again for twelve hours, for the bees to work out dead bees, &c.

**PREPARATION OF HAMS.**—B. P. Johnson, of the N. Y. State Agricultural Society, found on a recent visit to Maryland, hams far superior to any he had ever met with in New-York—and received the following account of the mode of preparing. We can fully endorse all that is said in favor of this mode of preparing and cooking, having used substantially this mode for many years:—

To every 100 lbs. of hams, take 8 lbs. of fine salt, 5 ounces of saltpetre, 5 ounces of brown sugar, half a pint of molasses, and an ounce of African red pepper; first sift and powder the saltpetre, and pass the salt and sugar under a rolling pin, and then mix all together. Rub this well on the skin side, and slightly on the flesh side, putting as much as possible into the hock. Place them on a platform for six weeks. [We repeat the rubbing two or three times.] Smoke with hickory wood. If the hams are large, they must be boiled six hours—if small, or if but half a one is taken at a time, four or five hours will do. Keep the pot filled, supplying evaporation with hot water. [The directions state that after the first boiling, the pot should be partially withdrawn, so as to allow simmering merely, but we do not see any special advantage, as *simmering* and *rapidly boiling* water are both at  $212^{\circ}$  of the thermometer.]

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## DOMESTIC ECONOMY.

**CEMENT FOR BROKEN CHINA.**—Stir plaster of Paris into a *thick* solution of gum arabic, till it becomes a viscous paste. Apply it with a brush to the fractured edges, and draw the parts closely together. In three days, more or less according to dryness and temperature of the air, it will be perfectly dry, and the article cannot be broken in the same place. It is white, and does not show.

**TO MAKE STICKING SALVE.**—Three pounds rosia, half a pound mutton tallow, half a pound of beeswax, and a table-spoonful of sulphur; melted, poured into cold water, and worked and pulled an hour.

**TO PREVENT CISTERN PUMPS FREEZING.**—Cistern pumps often are made to bring up the water through curved or inclined lead pipe, so as to conduct it to any desired place in the kitchen. They usually have a valve to open by a stroke of the pump-handle, and let all the water down again, so as not to freeze. But careless hired girls frequently omit this, and the lead pipe is filled with ice, which often splits the lead and spoils the



pump. A safer way, therefore, is to place a small splinter of wood under the lower valve, to let the water leak out in about five minutes, and drain the pump. This is to remain only during winter. The best pumps are now made so as to *screw off* the base in a few seconds, laying the lower valve to view. If pump tubes become actually filled with ice, they may be quickly thawed by pouring hot water *directly* on the ice, through a small lead or other tube, which must settle as fast as the ice thaws. Ice may be thus thawed a foot per minute—but without this tube it could not be thawed in a whole day, for the hot water being lightest, remains at the top.

TO REPEL FLIES.—Paint the walls with *laurel oil*. It will keep flies off of picture frames, &c.

TO KNIT HEELS.—To knit the heels of socks double, so that they may thus last twice as long as otherwise, skip every alternate stitch on the wrong side, and knit all on the right. This will make it double, like that of a double-ply ingrain carpet.

A RAT-TRAP.—A writer in Moore's *Rural*, says he fills a swill-barrel full of good swill—the rats soon learn to come and eat. After a few days, six or eight inches of the swill are dipped out, when they still find their way into the barrel, *but not out*. Sixteen rats were thus caught in one night.

TO CATCH OWLS.—Set a steel-trap on the top of a pole, near the hen-roost, and he will certainly be caught.

LEAKING HOUSES.—There are very few common houses built of wood, that will not after a long season of drought, leak badly at some places, when heavy rains occur. The best cement for stopping all cracks or openings where the rains enter, is a mixture of sand and white lead paint.

KEEPING POULTRY.—Judge Buel kept poultry in winter more than two months in a perfect state of preservation, by filling them after they were dressed, with powdered charcoal, and then hanging them in an airy loft.

CURE FOR STINGS AND BITES.—Venomous bites and stings generally, owe their virulence to a poisonous acid. Wet saleratus will cure a bee sting in a few minutes, and a poultice of wet ashes has quickly cured a rattle-snake bite.

DOOR LATCHES will work easily and with little noise, by touching them lightly once a week with a little oil or tallow.

SOOT IN CHIMNEYS, by taking fire, and dropping burning cinders on dry shingle roofs, causes many conflagrations. Most fires in the country originate in this way. Be particular to clean or burn out soot at least once a year, when the roof is wet.

FRICTION MATCHES should never be left where mice can get them—they have sometimes carried them in among their nests of shavings and papers, and slight causes have set them on fire and burned houses. A lady was

nearly burned to death, by the fire from a match which had been carelessly thrown on the floor, and which she fired by treading on it.

POSTAGE STAMPS, to stick well, should be wet on their face, *after they are applied*—this effectually prevents the corners from curling up.

TO KEEP HAMS IN SUMMER.—Wrap each in paper, pack them in a barrel, filling all the interstices between them so that they may not touch or come in contact with each other. Then cover the barrel tight to exclude insects, and keep in a dry place, and as cool as convenient.

APPLICATION OF KNOWLEDGE.—A very valuable pocket-knife was once dropped into a twenty-feet well, half full of water. "How shall we get it out? Shall we have to draw all the water from the well?" The writer proposed to use a strong horse-shoe magnet, near by, suspended to a cord. "But we can't see where to lower the magnet to, so as to touch the knife?" "Throw the sun's rays down on the bottom of the well by a looking-glass," was the second answer. It was done, the knife rendered visible from the top of the well, the magnet brought into contact, and the knife brought up—all being accomplished in a minute of time.

ANOTHER EXAMPLE.—The two parts of a pump bucket screwed together, were to be separated in repairing it, so as to introduce a new leather packing. But it was old, rusty, and firm, and the force of three stout men, with levers affixed to it, could not start it a hair's breadth. But what strength could not do, brains did. The outer part, or socket, (into which the other was screwed,) was heated, and the inner kept cold—the heat expanded it, made it larger, and a force of less than ten pounds separated the two portions.

Ground stoppers sometimes are fast in bottles, and hard to move—the heat of the fingers, in working at them, renders them still more so—but if the neck of the bottle is warmed, (by a cloth in hot water, by hot ashes, &c.,) the stopper will loosen immediately.

Nuts on large screws are sometimes in a similar *fix*, and may be removed in the same way. A nut required to keep its place firmly, if first heated may be fastened on more securely, and with less injury to the thread, than by the most forcible screwing.

TO MEND A CHAIN PUMP WITHOUT TAKING IT UP.—When the chain breaks, uncover the well and hook up one end of the chain. Tie a long cord to this end, and the other end of the cord to a large cork. Drop the chain with its cork down the pump tube, when, as soon as the cork passes the lower end, it will pop up to the surface of the water in the well. Draw it up and with it the cord, and with the cord the chain, when the chain is readily united, and the circuit made again.

DISH-WATER AND SOAP-SUDS, instead of being appropriated to the formation of an interesting puddle at the kitchen door, should be poured at the roots of young fruit trees, raspberry and currant bushes, and will accelerate their growth and augment the size of the fruit.



## STEAMER FOR COOKING FEED.

A western correspondent, remote from facilities for procuring boilers and cooking apparatus from the east, inquires for a cheap and efficient contrivance that may be manufactured nearer home.

A cheap and good boiler may be made of two-inch plank, made into a box, halved together at the corners, and secured by nailing on sheet-iron braces. This box should be of such a size that a single sheet of large sheet-iron may form the bottom, by projecting two inches on each side, so as to be bent up and nailed against the sides of the box. This is set

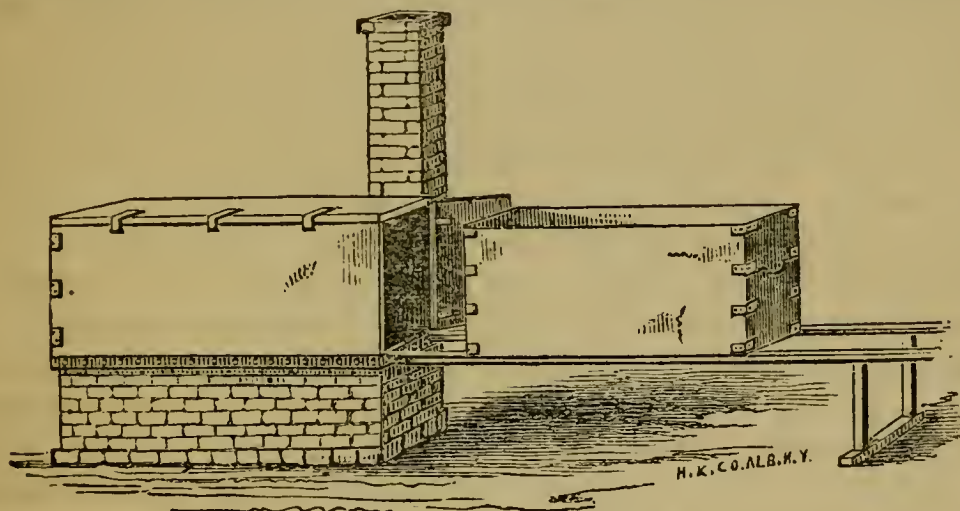


Fig. 119—STEAM BOILER.

on brick-work, forming a place for the fire beneath; the fire striking against the sheet-iron only, and the flue far enough off to secure the wooden part of the box from burning. A board, fitting the inside of the box horizontally, has cleats nailed across the under side, so as to keep it about three inches above the sheet-iron bottom; and these cleats are hollowed up in the middle, so as to rest only on their ends. The board has several holes bored through for the passage of the steam. About three inches of water are poured into the box, the roots or other substance are then placed upon the board, till filled; the tight lid is buttoned down, and heat applied beneath till the steaming is completed. A box of greater length may be used, the sheet-iron covering only a part of the bottom, provided sufficient care is taken to make it tight where joining the wooden portions of the bottom, the iron part only, as a matter of course, being over fire-place. Or, two sheets of iron may be joined together by lapping like the joints of stove-pipe, and the box thus made double the capacity. The fire-place will economize the fuel in the best manner, if built so that a *thin sheet* of flame will pass beneath the whole bottom, like that in Mott's furnace.

A steamer was described many years ago in one of the earlier volumes

of The Cultivator, which possesses several important advantages on account of the ease with which its contents are transferred from one place to another. It is represented in figure 119, where the box on the left is the boiler set on the brick fire-place as already described, but with the flue placed at *one side*, so that a door may open at the end. The right hand box is placed on small wheels or rollers, which run on horizontal rails, running into the boiler, where it is enclosed by the tight door. This box (with holes bored in its bottom,) is run along the rails under the bin of roots, and is quickly filled through a trap-door. It is then run into the boiler, the door closed, and heat applied. The three inches of water is quickly made to boil, and the steaming process goes on rapidly. When completed, the box with its cooked contents is run out (by hooking into a ring) on the rails, and an iron pin withdrawn which opens its bottom downwards, and discharges its contents into another box placed beneath, and standing beside the feeding-trough. If the rails are of some length, several such boxes may be filled successively, and allowed to cool. No safety-valve is required, as a sufficient quantity of waste steam will escape at the door, even if *list* is applied around its edges to make it tight. If necessary, a stop-cock or two may be inserted into the lower part of the boiler, to show the amount of water, as in the common boilers of a steam engine. The door is set about four inches higher than the bottom of the boiler, to allow space for water.

We cannot state from experience the value of this apparatus, but if there is no drawback, it must save a great amount of labor in handling roots and other food for cattle, which, being daily performed, constitutes a large item in a year.

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KEEPING POTATOES IN WINTER.—Potatoes spoil in winter, if buried, from three causes. First and greatest, want of ventilation. Secondly, and nearly allied, dampness. Thirdly, and more rare, freezing. Farmers find most of their potatoes spoiled at the top of the heap, where they suppose they became frozen; but this is not the usual cause; the damp, foul steamy air ascended there, and could not escape, and this spoiled them. A hole made in the top, with a crowbar, and closed with a wisp of straw, would have allowed egress to the confined air, and saved the potatoes.

The best way to secure potatoes out-doors, is to make large heaps, say 50 or 60 bushels; see that they are dry and clean, by digging before wet weather comes on; cover them all over with *one foot* of *packed straw*, and three inches of earth. The straw will prevent dampness, and the few inches of earth will favor ventilation. A farmer who raises many potatoes, and practices this mode, does not lose a peck, on an average, in 50 bushels.



## WEIGHT OF GRAIN

In a former number of the Register, in a large number of tables of *Weights and Measures*, a few lines were devoted to the weights of different kinds of grain per bushel. These were furnished by a high standard authority, giving briefly the *average* number of pounds per bushel in various parts of the country, as nearly as could be furnished in so small a space. Since that time, legislative enactments in some of the States have materially changed a few of the weights, and in order to give the best information in our power at the present time, we copy the following table from the *Genesee Farmer* of 1857, the weights being furnished a firm in Rochester by the Secretaries of the different States—in which table we have made such alterations as the last law of New-York, recently passed, requires. The letter *m* indicates sold by measure.

ARTICLES.	New-York.	Ohio.	Pennsylvania.	Indiana.	Wisconsin.	Iowa.	Illinois.	Michigan.	Connecticut.	Massachusetts.	Rhode-Island.	Kentucky.	New-Jersey.	Vermont.	Missouri.	Canada.
Wheat, lb.,.....	60	60	60	60	60	60	60	60	56	60	..	60	60	60	60	60
Rye, .....	56	56	56	56	56	56	54	56	56	56	..	56	56	56	56	56
Corn, .....	58	56	56	56	56	56	56	56	56	56	..	56	56	56	52	56
Oats, .....	32	32	32	32	32	35	32	32	28	30	..	33	30	32	m	34
Barley,.....	48	48	47	48	48	48	44	48	..	46	..	48	48	46	m	48
Buckwheat, .....	48	..	48	50	42	52	40	42	45	46	..	52	50	46	m	48
Clover seed,.....	60	64	..	60	60	60	..	60	..	..	..	60	64	..	m	60
Timothy seed, ...	44	42	..	45	..	45	..	m	..	m	..	45	..	..	m	48
Flax seed, .....	55	56	..	56	..	56	..	m	..	m	..	56	55	..	m	56
Hemp seed, .....	44	..	..	44	..	44	..	..	..	..	..	..	..	..	..	..
Blue-grass seed, .	14	..	..	14	..	14	..	..	..	..	..	..	..	..	..	..
Apples, dried, ...	22	25	..	..	28	24	..	28	..	..	..	..	..	..	..	22
Peaches, dried, ..	32	33	..	..	28	33	..	28	..	..	..	..	..	..	..	22
Coarse Salt, .....	56	50	85	50	..	50	..	..	..	70	..	50	..	..	50	56
Fine Salt,.....	56	50	62	50	..	50	..	..	..	70	..	50	..	..	50	56
Potatoes,.....	60	..	..	60	..	60	..	..	60	60	60	..	..	60	..	..
Peas,.....	60	..	..	..	..	..	..	..	..	60	..	..	..	..	..	60
Beans,.....	62	56	..	60	..	60	..	..	..	60	..	60	..	..	..	60
Castor Beans,....	46	..	..	46	..	46	..	..	..	..	..	..	..	..	..	..
Onions, .....	57	..	..	57	..	57	..	..	..	50	50	..	..	..	..	..
Corn Meal,.....	..	..	..	50	..	..	..	..	..	..	50	..	..	..	..	..
Mineral Coal,....	..	..	..	70	..	..	..	..	..	..	..	..	..	..	..	..

A law of New-York, in force at the present time, adopts the United States *bushel of measure*, as already given in the Register for 1857, viz: 2150.42 cubic inches per bushel, 1075.21 half bushel; and the wine gallon, 231 cubic inches.

To reduce cubic feet to bushels, struck measure, divide the cubic feet by 56 and multiply by 45.

## VARIOUS REMEDIES, TREATMENT, &c., RECOMMENDED FOR TRIAL.

**RELIEVING CHOKED CATTLE.**—It is said that pouring into the throat half a pint, more or less, of sweet oil, (or lamp oil,) will so lubricate the obstruction, that rubbing the throat briskly outside with the hand will soon remove it—sliding it up or down according to its position. In any case, the oil is a useful auxiliary to other means.

**FEEDING PUMPKIN SEED TO CATTLE.**—It is asserted by some good farmers, that pumpkin seeds have a certain specific effect on cows, causing them to dry up their milk; and that when the seeds are taken out before feeding, it will be found they yield a larger quantity.

**GARGET OR INFLAMED UDDER IN COWS.**—It is stated on good authority, that whenever this disease is caused by a cold, a few drops of *aconite* in solution, will soon effect a cure. It is dropped into water, and a piece of bread then soaked in it, and applied.

**FATTENING LAMBS.**—A correspondent of the *Maine Farmer*, says that lambs will soon learn to eat oats, if left before them, at about three weeks of age; and that it will cause them to grow and fatten rapidly—more so than by any feeding to the dams. Two boards are nailed together for a trough, and short boards nailed on the end, so as to raise them about six inches high—in this the oats are placed. The troughs are in a yard or barn, to which openings are made just large enough for the lambs to pass, but too small for the sheep.

**STRETCHES IN SHEEP.**—An eminent and skillful manager of sheep, says that he seldom fails to cure sheep of this disease in a few minutes, by placing a spoonful of tar in the mouth, and holding it shut till the tar melts and runs down. Lard and castor oil produce a slower and less certain effect.

**DRIVING OFF THE RATS.**—The *Farm Journal* gives an experiment performed with chlorine gas. A dish of manganese and muriatic acid, for producing this gas, was placed under the garret floor, and on the lathing below it, the floor board being replaced. The gas, being heavy, descended in every direction between plastering and walls, and being exceedingly pungent, produced a "great sensation." "All night long, it would seem as if Bedlam had broken loose between the partitions." They decamped, big and little, and stayed away three months. Chloride is a poisonous gas, unless in minute portions, and great caution is required not to breathe much of it. It should be well confined within the walls. It is an admirable purifier, at least. The best rat trap or rat poison we ever found, is a good cat.

**HEAVES IN HORSES.**—Well cured corn-stalks, cut before frost, are the best fodder for horses that have the heaves. Cases taken in time, have been ultimately cured by constantly feeding on them. Hay, cut fine, and



wet before feeding, will greatly alleviate all symptoms of heaves ; and even in old and incurable cases, the disease will be often *suspended* while horses are thus fed.

OVER-REACHING HORSES.—A writer in the N. E. Farmer, who is a black-smith, cures over-reaching horses, and increases their trotting speed fifteen or twenty seconds per mile, by the following mode of shoeing, which increases the motion of the forward feet and retards the motion of the hind ones. He makes the toe-caulks very low, standing a little under, and the shoes set as far backward as convenient, on the forward feet, with high heel-caulks, so as to let them roll over as soon as possible. On the hind feet, the heel-caulk is low and the toe-caulk high and projecting forward. Horses shod thus, travel clean, with no click.

REPELLING FLIES.—A writer in the Farm Journal pours two pails (24 quarts) of boiling water, on five pounds each of walnut and tobacco leaves (refuse tobacco), and washes his horses, oxen and cows with this decoction—when dry, he rubs the horses down with walnut leaves. He affirms this will repel flies for two weeks (if not washed off by rains, we suppose.) A decoction of wormwood is said to have the same effect—and probably many other plants would be equally efficacious.

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## ROOT CROPS.

STORING RUTA BAGAS.—These roots heat easily, and they require most thorough ventilation. Next, to be kept as cool as practicable, without freezing—a little frost will not hurt them, if thawed very gradually. If stored in a cellar, they must not be placed on the bottom of the cellar, but kept a foot above, on a coarse wooden grate, which may be made of rails. This will admit air freely. If heated, they become pithy and comparatively worthless.

If kept out-doors, they should be placed in *ridges*, not over three feet wide, and as steep as they will pile, and as long as convenient. Cover well with straw, then with a few inches of earth—in the northern States, six inches will do. Pat the earth smooth with a spade, to drain off rains. Then make a hole with a stake or crowbar, every six feet, and put in a wisp of straw—this allows ventilation.

CARROTS IN SUCCESSION.—In some parts of Massachusetts, four or five successive crops of carrots are taken from the same land, without a diminished product. The editor of the New-England Farmer says he has raised four successive crops, with a gradual increase. All crops must exhaust land more or less, unless a part or all is left on the land ; but in this instance, it appears that the annual manuring imparted more fertility than the crop took away.

## CHEAP FENCES.

In most of the newer portions of the country, the old-fashioned zig-zag rail fences still prevail, and where timber is abundant, do not cost one-third the amount required for good post and board fence. Many of them are made wholly of rails, without any protection at the corners, and are consequently easily thrown down by cattle, colts, and the wind. A firmer fence consists in the addition of stakes and riders; but the stakes projecting two feet beyond the fence, the whole occupies a strip of land at least ten feet wide. Placing the stakes *upright* at the corners, and connecting the two opposite

ones near the top by means of a loop of annealed or small telegraph wire, is a great improvement, occupying but little more than half the ground required for the former. Another modification, equally efficient and as saving of land, consists in placing the riders, (for which long poles are best,) in a straight line on the top and at the center of the fence, and then placing upright stakes in each inner corner between the rider and the fence, the lower end merely resting on the ground, and the other wedging closely between the top rail and riders.

The accompanying figures, showing a ground

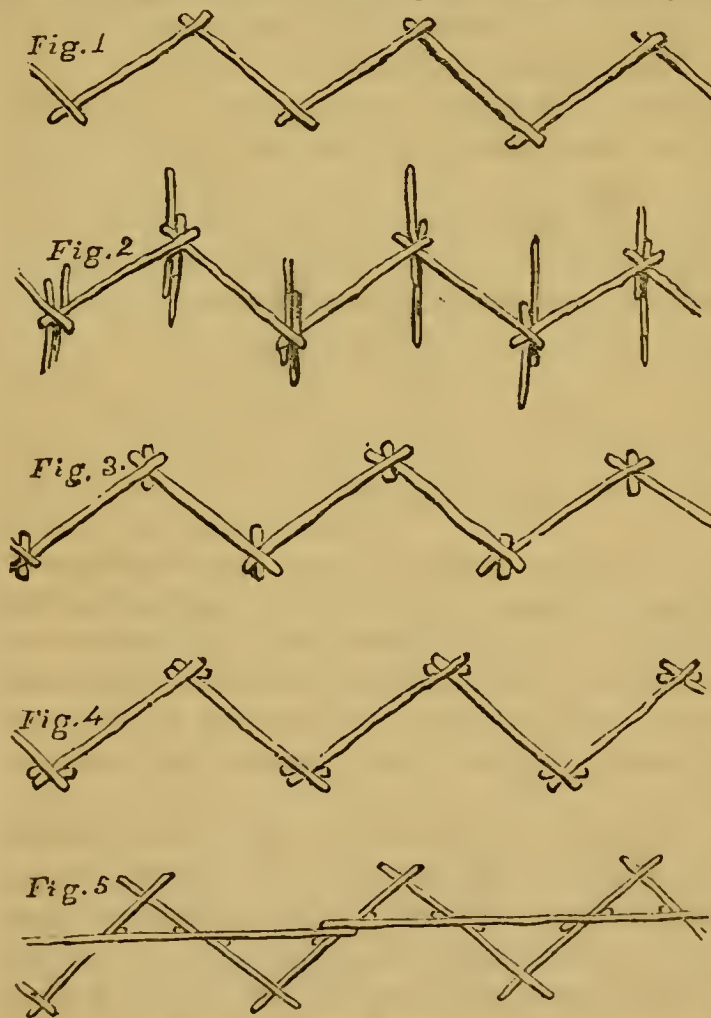


Fig 120—GROUND PLANS OF FENCES.

plan of each fence, will serve to make their construction plainer, and to exhibit their several advantages.

Fig. 1 represents the simple zigzag fence, as seen on careless farmers' grounds, without any stakes.

Fig. 2 is the common "staked and ridered" fence, somewhat substantial, but occupying too broad a strip of land.

Fig. 3 is a better arrangement, with upright stakes placed at the



opposite corners, and the two connected and held closely to their places by a loop of annealed wire.

Fig. 4 is similar to the last, but is better, inasmuch as the stakes are placed in the *acute* corners, and therefore maintain their places better, and brace the fence more firmly than if placed in the *obtuse* angles, as in fig. 3.

In fig. 5 the bracing is still more perfect, but the fence has not the neat appearance of fig. 4. In the two last, the stakes need not enter the ground, but may rest merely upon the surface, and hence short pieces of timber, broken rails, or any sticks five feet long will answer, provided they are connected by wire about two-thirds or three-fourths of the height of the fence. These two modifications, then, are more economical in construction as well as in the length of the stakes, no holes being required for the insertion of their lower ends. Less strength of wire is needed for these, as the stakes are more securely held in the acute angles.

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## VENTILATION.

Some of our readers may recollect the speech of the old-fashioned deacon, on the occasion of the introduction of a stove into the place of worship, after the congregation had endured the unsoftened cold of winter from time immemorial. They had always done without a fire in winter, until some of the younger portion of the church, with their new-fangled notions, out-voted the conservatives, and a stove was introduced. After the lapse of a few weeks, the deacon requested the congregation at the close of the services, to remain in their seats, as he had important business to lay before them. The subject of the stove was then broached. "If," said he, in conclusion, "you are resolved to keep the stove in the church, then pray get one large enough to warm the whole house; for as it now is, the stove is only large enough to drive all the cold back into the remote parts of the house, where myself and others sit, and we are now colder than before." This remark was considered by some as especially absurd; but after all, he was right, although the rationale was rather fallacious.

One fact to illustrate our meaning. We have gone into a room in winter where there was no fire, and where every door and window appeared to shut so closely that not the least current could be perceived from any crevice. A fire has then been built in the fire-place, and immediately the shrill singing of air currents entering crevices before unknown, showed that the rapid draught up the chimney required supply from without, and that the cold air was rapidly rushing in for this purpose. Of course, near these window currents, it must be colder than before. Precisely in the same way, the deacon above spoken of, found that the cold currents

from without had increased by the introduction of the stove ; the draught of the fire requiring a constant supply of air.

This fact furnishes some important suggestions on the subject of ventilation. There is no question that the air in many of our rooms in winter, becomes close, and unwholesome to breathe ; but where there is a strong draught, either up the throat of a fire-place or through the pipe of a stove, the circulation is quite sufficient to maintain good fresh air for all

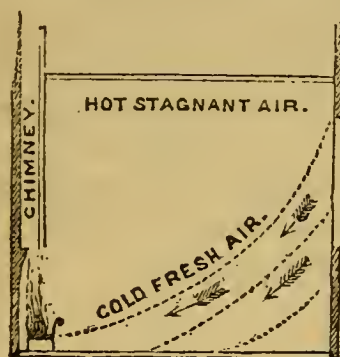


Fig. 121.

the ordinary purposes of breathing, *provided the circulation is in the right direction*. The air rushes in through window crevices, and passes directly towards the fire. These entering currents *immediately descend*, because, first, they are much heavier than the air of the room. The experiments of Gay Lussac proved that air a few degrees below freezing, (about  $24^{\circ}$  Fah.,) is about one-tenth heavier than air in a room at  $68^{\circ}$ . These cold streams must of course, as soon as they enter, fall like streams of water towards the floor. They immediately descend, because, secondly, the air current which feeds the fire must go as low as the fire, which is generally within a foot or two of the floor. Fig. 121 exhibits those descending currents.

For these reasons, all the cold air of a room, and all the fresh air, surrounds only the feet and legs of the occupants. All in the upper portions is *stagnant*, and has no means of becoming purified. The head is thus kept *hot*, and the feet *cold* ; foul air is fed to the lungs which ought to have fresh, and fresh cool air is kept around the feet, where its purity is useless, and its coldness detrimental to health and comfort. Every thing is exactly wrong, although there is enough of fresh air pouring into the room for all healthy breathing purposes, and enough of combustion going on to keep the room abundantly warm, if the heat were only properly distributed. Any one may satisfy himself on this point, by placing a thermometer at the floor and then at the ceiling, allowing fifteen minutes for it to settle. A difference of about *twenty degrees* between the two places at the same time, will generally be observed.

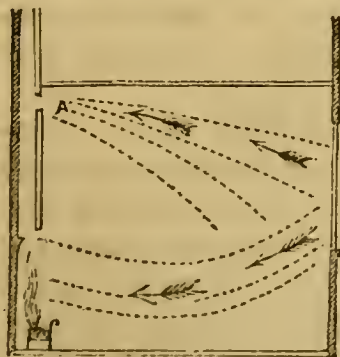


Fig. 122.

A partial remedy for this difficulty consists in placing a *Register* (a, fig. 122) in the chimney near the ceiling, to admit the escape of the foul upper air, at that place. This may be opened or closed at pleasure, according to the necessities of the case. Sometimes, for instance, the wind may drive the smoke downwards through this opening, and it will be important to keep it closed at all such times. Boynton and Richardson, of Broadway, New-York, manu-



facture a register for this purpose, which under ordinary circumstances remains open and admits the free escape of the air; but a downward current of air instantly closes it.

The chimney register affords, however, but a partial remedy. Although it serves to purify the upper air, it does not prevent the cold currents at

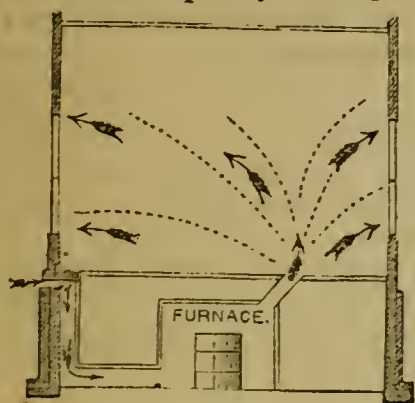


Fig. 123.

the feet. We are inclined to think that some radical change in the construction of fireplaces and stoves must be made before all the existing evils can be removed. A hot-air furnace obviates the defect completely, the hot air entering from below, and the air of the room passing out through all the crevices through which cold currents usually enter—(fig. 123.) But hot-air furnaces, if well made and durable, are costly and inconvenient to feed; they cost much to erect, and consume

much fuel; and being placed in the basement or cellar, they are troublesome to superintend. In all farm houses which have no cellar kitchen, stoves are cheaper and far more convenient for small or moderate families; and we propose a new mode of setting them, to prevent the foot-bath of cold air referred to. Perhaps they will need to be constructed on purpose for the proposed arrangement. A space shall be left in the floor, so that a *hearth of brick may be laid some inches below the surface*—(fig. 124.) On this hearth the stove shall be directly set, without the

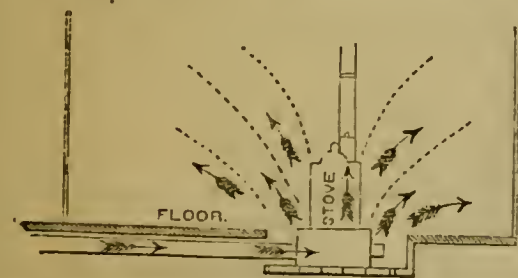


Fig. 124.

intervention of legs. Just above this hearth, and below the floor, a wooden tube shall lead to the air outside the house, the portion next the stove being sheet-iron, and supplying air for combustion by passing directly into the stove. This will entirely obviate the necessity of cold streams of air from window cracks, to feed the fire. The

air through another tube, or a portion of the same, may be admitted on different sides of the stove, and in contact with its lowest portions, for becoming heated to warm the room. This would also tend to obviate cold currents, because the fresh air coming in from below, would *pass out* through higher crevices, instead of *entering* them. The addition of a register near the ceiling would, if necessary, render the ventilation complete.

There would be another important advantage in this arrangement, on the score of economy. We have found by experiment, that a stove placed on a stand two feet high from the floor, required twice as much fuel as when placed down level with the floor, to render the room equally com-

fortable, so difficult is the descent of heated air. If, therefore, the stove were placed actually below the floor, the lower stratum of air next the floor, would be warmed with still greater facility.

This contrivance would afford the conveniences of a hot-air furnace already mentioned in this article, with less consumption of fuel, without unduly warming the cellar, and without the trouble of running down stairs every time the fire needs replenishing or regulating.

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### GOOD AND BAD MANAGEMENT.

We have sometimes thought that if farmers could see before them in all their distinctness, bad winter management on one hand, and good management on the other, side by side, it might serve as a stimulus to adopt the one and avoid the other.

The bad farmer throws his fodder on the ground, to be trodden under foot, or to be worked into the mud. The good farmer provides good but cheap racks, where all is saved.

The bad farmer allows his cattle and sheep to feed in the open fields, swept by every wintry tempest, or storm of sleet and snow. The good one provides good, clean, comfortable shelter, where the animals thrive and keep fat, and saves a large portion of the feed otherwise required to to keep up their animal heat



Fig. 125.

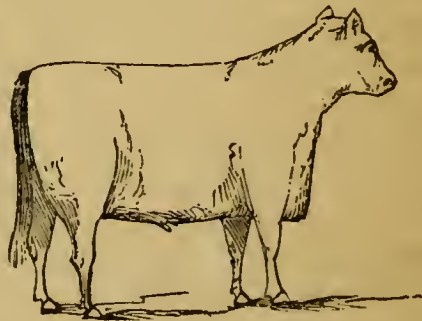


Fig. 126.

The poor farmer lets his calves run wherever the older cattle drive them, and by spring they look very much like fig. 125; the good farmer gives his calves the best chance of all his cattle, feeding them with meal and hay, and keeping them well stabled by night and properly sheltered by day, and in spring they look like fig. 126.

The bad manager permits his winter swine to procure their own lodging where they can best find it—in the corner of the barn-yard, in the manure heap, or under some transient pile of straw, exposed to rains and snow-drifts. The good manager provides a comfortable hog-house, and takes especial pains that they have good *dry* bedding, and that everything about them is kept *clean*.



## C I R C U L A R.

SINCE the issue of my last CATALOGUE, large additions have been made to my herd of Short-Horns, by purchase as well as by natural increase. In June of the past year, I received from England three heifers—obtained at the sale of Sir Chas. Knightley's entire herd; and also one cow from the herd of Mr. Bolden. The "Duke of Dorset," a young bull of the Duchess family, shipped at the same time, died on the passage out. In October following, I imported five other animals; three heifers, the choice from Lient. Col. Townley's celebrated herd, viz: 'Miss Butterfly,' 'Buttercup, 2d,' and 'Pearlette.' The first-mentioned animal was sired by the renowned bull 'Master Butterfly,' who carried all the prizes in England, as well as at the great French Show, held at Paris in 1856; and was finally sold, to go to Australia, for the sum of twelve hundred guineas—(\$6,000). 'Pearlette,' is from a half-sister of the bull 'Master Butterfly,' and is directly descended from Mr. Booth's celebrated prize cow 'Bracelet.' The cost of these three heifers was \$5,000. 'Darlington 6th' was purchased at the sale of Mr. George Sainsbury, as the gem of the herd, and 'Maria Louisa,' the fifth animal, was obtained at a sale in Ireland. For this valuable acquisition, I am indebted to the efficient services of H. Stafford, Esq., the well-known editor of the English Herd Book.

More recently, it has been my good fortune to secure, by private purchase, the entire and far-famed herds of Col. L. G. Morris, Mount Fordham, N. Y., and the late Noel J. Becar, Esq. Both herds are so well and widely known, that it is unnecessary here to extol them. The synopsis of Col. Morris' last sale—just issued—is the best proof of the estimation in which these animals are held by the public. They were never exhibited at the Fairs, without sweeping all before them; and, probably, no man ever won so many prizes with so little showing.

This purchase makes an addition to my herd of fifty-one animals; viz: forty-five females and six males. Included are the celebrated bull 'Duke of Gloster,' [11382,] the famous cow 'Duchess, 66,' and her three heifer calves; as well as The Oxfords, 'Bloom,' 'Iris,' 'Surprise,' &c., &c. My herd now embraces seven females and three males of the Duchess tribe; and ten females and two males of the Oxfords—two families of well-deserved renown, first bred by Mr. Thomas Bates.

My herd now counts over 80 cows and heifers, and about 20 bulls. I propose to reduce this number to about 60 head; and pledge myself to spare no pains or expense to make the herd at Thornedale at least equal to any in the world.

My flock of South Downs has also been largely increased. At Col. Morris' sale, last summer, I purchased thirteen imported ewes, as well as the famous ram 'Young York.' Five of the ewes were bred by Mr. Henry Lugar, Bury St. Edmonds, who for several years past has been a successful exhibitor at the Shows of the Royal Agricultural Society of England. They were winners of the first prize at the Royal Show in 1855; and also at the U. S. Agricultural Society's Show, held at Boston the same year. Since then, by private importation, I have been able to secure ten more yearling ewes, purchased at the sale of the entire flock of Mr. Lugar.

My original flock of South Downs was composed wholly of imported animals, bred by Mr. Jonas Webb, Babraham, with the exception of three pens of prize ewes, two of which were bred by Mr. Lugar, and the third by Lord Walsingham. The sheep have been bred chiefly to 112, the prize ram, purchased for my father, at Mr. Webb's letting, in 1852, for one hundred and thirty guineas—(\$650). My flock now numbers one hundred and thirty.

In selecting and purchasing South Downs, the same course has been pursued as with the cattle; every effort being made to introduce into this country England's best. There will be offered for sale during the summer and fall, about thirty ewes and ten or twelve rams, including 'Young York.'

Few persons are aware of the great improvement made in South Downs, since the earlier importations of them into this country, both in weight of carcass and yield of wool. The first prize yearling ram, at the U. S. Agricultural Show, at Philadelphia, last fall, now weighs 236 pounds, and will undoubtedly shear ten pounds of clean wool. A number of my rams, now just a year old, weigh 150 pounds, and several of them as high as 162 pounds.

THORNEDALE is situated 14 miles east of Poughkeepsie, on the Hudson River Railroad, and nine miles west of Dover Plains Station, on the Harlem Railroad. A good turnpike passes the door.

SAML THORNE, THORNEDALE,

April, 1857.

WASHINGTON HOLLOW, DUTCHESS CO., N. Y.

## GENESEE VALLEY NURSERIES.

**FRUIT TREES, ORNAMENTAL TREES, ROSES,  
Shrubs and Green-House Plants.**

**T**HE Proprietors of the **GENESEE VALLEY NURSERIES** have now on hand, for the ensuing season's sale, a large and well-grown stock of

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DECIDUOUS SHRUBS, including all new introductions.

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A choice assortment of BULBOUS FLOWER ROOTS.

### SEEDLINGS FOR NURSERYMEN.

We have always on hand to supply the Trade, a supply of Stocks, &c., including

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Also, SEEDLING EVERGREEN TREES,—all of which will be found of good quality and reliable.

Full particulars as to size, prices, &c., will be found in our Catalogues, which will be mailed to all applicants who enclose a stamp to prepay postage.

 Full directions are requested as to marking and forwarding orders.

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No. 1. Descriptive Catalogue of Fruits.

No. 2. " " Ornamental Trees, Shrubs, Roses, &c.

No. 3. Green-House and Bedding-Out Plants.

No. 4. Wholesale or Trade List.

**A. FROST & CO.,**

Proprietors Genesee Valley Nurseries,

ROCHESTER, N. Y.



# R. M. WELLES & BROOKS,

PROPRIETORS OF THE

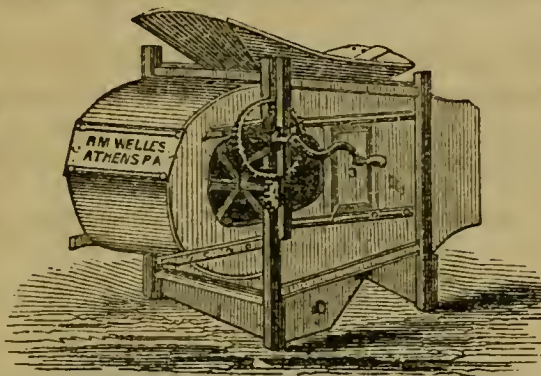
## TIOGA POINT AGRICULTURAL WORKS,

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Horse Powers,  
Threshers and Sepa-  
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Cleaners, Portable  
Circular and Cross-  
cut Saw-Mills, Shin-  
gle Machines, Cider  
Mills, &c.



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Mowers and Reapers,  
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## EXCELSIOR FANNING MILLS.

**T**HESE are the handsomest, cheapest and best Fanning Mills known, and are warranted to be second to no others made in the United States for durability, simplicity, rapidity in doing work, or for any of the purposes for which a first-class Fanning Mill is designed.

Only one size. Price \$25; Pulley for Horse Power \$1 extra.

A very liberal discount made to dealers, who are invited to order sample mills. To introduce our mills into new localities, we will make a liberal allowance on the freight on all sample mills, and on those ordered by retail customers.

Descriptive Circulars and Price Lists of all our machines will be sent to all applicants by mail.

**R. M. WELLES & BROOKS, ATHENS, BRADFORD CO., PA.**

## Employment for the Fall and Winter Months.

### The best Book for Agents—To Persons out of Employment.

An Elegant Gift for a Father to present to his Family!

Send for One Copy and try it among your Friends!

**W**ANTED—Agents in every section of the United States and British North America, to circulate SEAR'S LARGE TYPE QUARTO BIBLE for Family use, entitled **The People's Pictorial Domestic Bible**, with about One Thousand Engravings!

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Is that of 316 horses ; and the ultimate or theoretical power, that of 190,000 horses.

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The **GREAT WORK UNABRIDGED**. If you are too poor, save the amount from off your back, to put it into your head."—[Phrenological Journal.

"Every **FARMER** should give his sons two or three square rods of ground, well prepared, with the avails of which they may buy it. Every **MECHANIC** should put a receiving box in some conspicuous place in the house, to catch the stray pennies, for the like purpose.

Lay it upon your table by the side of the Bible—it is a better expounder than many which claim to be exponents.

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To the uninitiated in the great art of Selling Books, we would say that we present a scheme for money-making, far better than all the gold mines of California and Australia.

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# SUPERB VERBENAS.

DEXTER SNOW, Verbena Florist,

And the Pioneer of Special Culture in this Country,

**R**ESPECTFULLY invites the attention of all lovers of this justly popular bedding plant, to his unrivalled collection, being by far the **LARGEST IN AMERICA**, if not in the world, numbering as it does, nearly **350 NAMED VARIETIES**, embracing everything worthy of cultivation, no pains or expense having been spared to secure all the new varieties up to the present time. Devoting, as he does, his entire time and attention to the **exclusive culture of the Verbena**, making a speciality of this particular branch of Floriculture, he is enabled to carry it to greater perfection than would be the case were he to cultivate many species of plants in the same collection, and purchasers are assured that great care will be taken to have every plant sent out properly labelled, and that they prove true to name and description as found in his Annual Catalogue.

Among the new and choice varieties to be found in his collection, are the following :  
Standard Bearer—a fine bluish purple, with large white eye, very distinct.

Mrs. Archer Clive—rich ruby crimson, extra fine.

Gen. Simpson—carmine red, pips and truss very large. This is without exception, the finest Verbena of its color yet out.

Imperialis—rich mulberry crimson.

Purpurea Magnifica—mulberry crimson, beautiful color, and one of the best.

King of Sardinia—a beautiful crimson with deeper center.

Gen. Walker—a fine reddish crimson.

Metropolitan—rich blue purple, very fine.

Gloria of America—Queen of Summer—Isabella—Dr. McLean—Sarah Elizabeth.

Mrs. Holford—pronounced the finest white ever sent out.

Mrs. Woodruff—a superb scarlet, the largest in cultivation.

Mrs. Negley—Lady Kerrison—Electra—Madam Plantamour—Sunlight—Viscountess Emlyn, and many others, including superb Seedlings raised by the subscriber the past season.

For the accommodation of those persons not acquainted with the different varieties, the subscriber has selected a large number of choice ones, and arranged them in packages in such manner as he believes will be found both very convenient and satisfactory, as they are selected with great care as to **quality of flower and variety of color**, so that a purchaser has only to enclose the money and number of package desired, without being obliged to write off a list of names.

Package No. 1, will embrace 13 distinct first-class varieties, including two novelties and two fragrant ones, for \$1.75.

Package No. 2, will embrace 25 distinct first-class varieties, including four novelties and the fragrant varieties, for \$3.

Package No. 3, 50 first-class varieties, including six novelties and the fragrant ones, for \$5.

Package No. 4, will embrace 25 varieties, scarlet being the predominating color. This will be found very useful for circular beds, or for growing in masses upon the lawn, as the scarlet colors contrast finely with the green grass.

To save expense in Express charges, four or more persons may club together and have their packages forwarded in the same box, yet each kept separate from the other, so that they may be distributed without difficulty.

If ordered early in the season, plants may be forwarded perfectly safe by mail, any distance within three days of Chicopee. Plants were sent in this way the past season, to Alton, Ill., Hagarstown, Md., and many packages to various parts of Ohio, with admirable success.

For \$2 enclosed, Package No. 1 will be forwarded post-paid—for \$3.50, Package No. 2, and for \$6, Package No. 3, post-paid ; and if ordered previous to May 10th. the plants will be **warranted delivered in healthy condition**, so that there shall be no risk on the part of the purchaser.

Descriptive Catalogues for 1858, ready in January, and will be forwarded free to all enclosing their names. Address **DEXTER SNOW,**

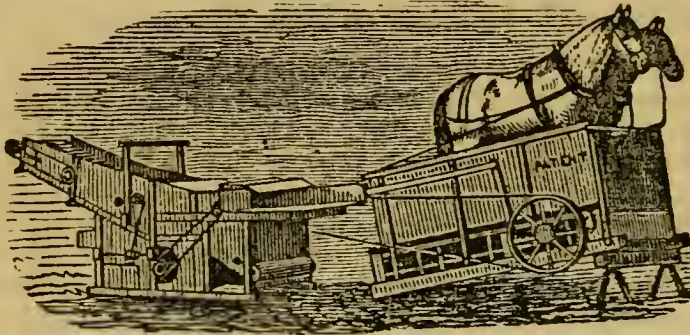
CHICOPEE, HAMPDEN CO., MASS.

# SCHENECTADY AGRICULTURAL WORKS

MANUFACTURE

Improved Railway Horse Powers, Threshers and Separators, Threshers and Winnowers Combined, Clover Hullers and Sawing Machines.

**T**HE undersigned having been over twenty years engaged in building Threshing Machines, feel confident from past experience, and the numerous testimonials we



are receiving from all parts of the country, of the superiority of our Machines, that we can give satisfaction to all who may favor us with their orders.

Our HORSE POWERS are made substantial, and so geared that it requires the team to travel only about  $1\frac{3}{4}$  miles per hour, thereby making it suitable to work either horses or cattle on them.

Our THRESHERS and COMBINED THRESHERS and WINNOWNERS, are so constructed as to discharge all the grain and dust through the machine, and not into the feeder's face, as is usual with other kinds.

The THRESHER and WINNOWER has a revolving wire SEPARATOR, which does the work more perfectly than can be done in any other way.

The SEPARATOR (Riddle) has a fork straw-shaker, which shakes the grain from the straw, as it passes from the thresher.

Overshot Threshers have been built more than 25 years, but we have patented recent improvements that make them superior to all others, and we will warrant them to give satisfaction upon trial, or they may be returned.

Below we publish some statements unsolicited by us, showing the opinions of our customers in regard to the utility of these machines.

SHARON, Feb. 12, 1856.

Messrs. G. WESTINGHOUSE & Co.—The Two-Horse Power, Thresher and Winnow-er that I bought of you last August, has worked to my entire satisfaction. The persons for whom I have threshed say they never had a machine work equal to it. I have threshed from 300 to 600 bushels of oats per day, and from 150 to 225 bushels of wheat. In all cases it cleaned the grain more perfectly than is usually done by hand mills. I have also threshed from 300 to 350 bushels of buckwheat in a day. I have threshed about 25,000 bushels of grain with the machine since I purchased it, all with two horses, and they are now in much better condition than when I commenced. There has been no repairs to the machine yet.

MICHAEL SUTPHEN.

This machine of Mr. Sutphen's has been used also during the past year, and threshed altogether over 40,000 bushels of grain without any repairs.

G. W. & Co.

HARTLAND, Oct. 18, 1856.

G. WESTINGHOUSE & Co.—Your favor directing me to cut off the bottom of the Separator trunk, was received. I then cut it off about five inches, but do not think it made any difference. I then changed ends with the Separator, and it has not clogged since. The machine (a Horse Power, Thresher and Winnow-er) has given good satisfaction, I believe. I have threshed 265 bushels of oats in two hours. Expenses for breaks, 62½ cents. I believe it is easier work for horses than traveling on the road. Have threshed almost every day since the first day of August. Yours,

JOHN N. KNEELAND.

McKEAN, ERIE Co., PA., July 27, 1857.

G. WESTINGHOUSE & Co.—The machine (a Horse Power, Thresher and Winnow-er) is universally praised by all for whom I have worked—OVER EIGHTY DIFFERENT FARMERS. I had all the work I could do last year, and that, too, without any solicitation on my part. I am well pleased with the machine, and intend to exhibit it at our County Fair this fall. Yours truly,

SPENCER F. STAFFORD.

PANTON, VT., Oct. 17th, 1856.

Messrs. WESTINGHOUSE & Co.—The Threshing Machine you sent to me, gives good satisfaction among the neighbors where I have used it. They say it threshes faster, and separates the straw from the grain better, than any other machine that has ever been in these parts. Very truly yours,

MARTIN HOYT.

G. WESTINGHOUSE & CO., Schenectady, N. Y.



# AGRICULTURAL BOOKS.

**C. M. SAXTON & COMPANY,**  
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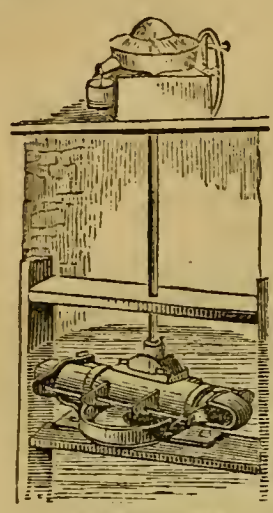
**PUBLISH** the following Books for the Country, and will send them, Free of Postage, to any part of the United States upon receipt of Price.

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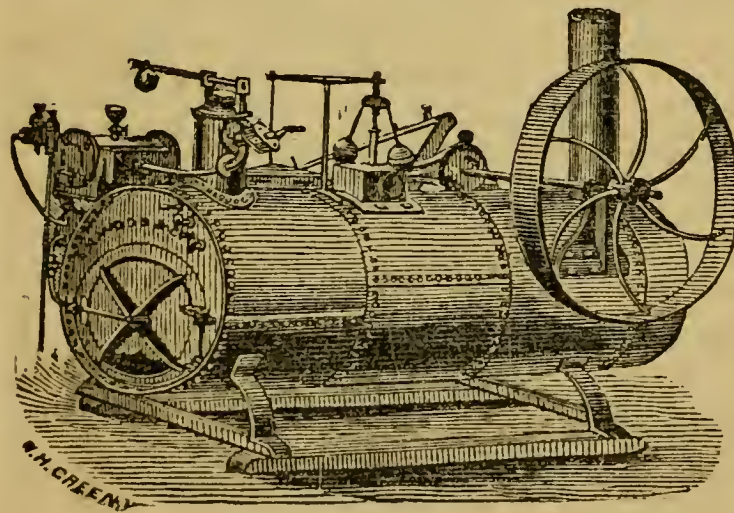


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WE HAVE made great improvements in our Engines the past winter, particularly in the manner of setting the tubes in the boilers, (by Prosser's Patent) adding a large wrought-iron dome in place of small cast ones, increased the size of fire-box, with ash-pan that can be closed up tight or opened at pleasure,—also in the manner of connecting the governor to throttle, making it direct action. Parties wishing Circulars with cuts of Engine, should enclose P. O. Stamp to pay return postage on same. The following is our

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Horse power.	Estimate weight.	Space occupied.	Cash price.	Fly-wheel diameter.	Face of wheel.
2½	2000 lbs.	4 by 5 feet	\$240	39 in	5½ in.
3	2200 "	5 by 5 "	290	39 "	5½ "
4	2500 "	7 by 5 "	355	40 "	6 "
6	3600 "	7 by 5 "	550	44 "	7 "
8	4800 "	9 by 6½ "	700	48 "	8 "
10	6000 "	10 by 6½ "	875	60 "	8 "
12	7500 "	14 by 6½ "	1050	72 "	12 "

The above price includes boxing and delivered on board cars.

A. N. WOOD & CO.



# CHOICE FLOWER SEEDS.

THE subscriber offers for sale a very select assortment of FLOWER SEEDS, containing in addition to many fine varieties of his own growth, a large assortment which have been selected with more than ordinary care from several of the most experienced Florists in England, France and Germany.



The increasing interest manifested in the cultivation of Flowers, and the demand for New Varieties have induced him to give particular attention to this branch of business, and no pains have been spared to make his assortment as complete as possible, by the addition of all the new and really desirable varieties—also of all the improved varieties of the old established favorites.

The attention of Florists and Amateurs is particularly invited to his selections of GERMAN SEEDS in original packets; also to the very select varieties of

DOUBLE GERMAN ASTERS, DOUBLE BALSAMS,  
CARNATIONS and PICOTEE PINKS,  
ENGLISH PANSEYS, GERMAN STOCKS,  
CALCEOLARIAS, CINERARIAS, CHINESE PRIMROSE,  
DOUBLE HOLLYHOCKS, &c.,

Saved from Prize Flowers only, which cannot be too highly recommended.

A new Descriptive Catalogue of several hundred varieties of Flower Seeds, will be issued early in January, 1858, and forwarded to all applicants on receipt of a Postage Stamp.

## FLOWER SEEDS BY MAIL.

For the accommodation of those who love the cultivation of Flowers, but who reside at a distance from where they can be procured, he has selected from his large assortment of Flower Seeds the most showy varieties and those of easy culture, and put them up in assortments which will be sent, post-paid, to any address in the Union, at the following prices:

ASSORTMENT No. 1 consists of twenty choice varieties of Annuals,.....	\$1.00
ASSORTMENT No. 2 consists of twenty choice varieties of Biennials and Perennials, .....	1.00
ASSORTMENT No. 3 consists of ten extra fine varieties of Annuals and Perennials, embracing many of the new and choicest in cultivation, .....	1.00
ASSORTMENT No. 4 consists of five very choice varieties, selected from Prize Flowers of English Panseys, German Carnation and Picotee Pinks, Verbenas, Truffaut's French Asters and Double Hollyhocks, each of which are sold at 25 cents singly,.....	1.00

Persons in ordering will please give the number of the Assortment. Any person remitting Three Dollars will receive the four Assortments, postage free. Remittances can be made in bank bills or postage stamps.

It is now three years since he commenced putting up the above assortments, during which time they have been sent to every State and Territory in the Union—and notwithstanding the unfavorable weather to which they have been exposed in many localities, have given universal satisfaction. Those who have given them a trial, recommend them freely to their friends, and the most flattering testimonials are daily received of their good quality. Orders must be accompanied with the Cash, or a satisfactory reference.

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## The Cheapest Method of Raising Honey.

M. QUINBY, and neighbors who manage Bees on his system near St. Johnsville, N. Y., raised last season (1856) more than 20,000 lbs. of pure surplus honey in fancy glass boxes, without the aid of a single patent hive!

Description of HIVES, BOXES, and MANAGEMENT FULLY given in the "Mysteries of Bee-Keeping Explained," a work of near 400 pages.

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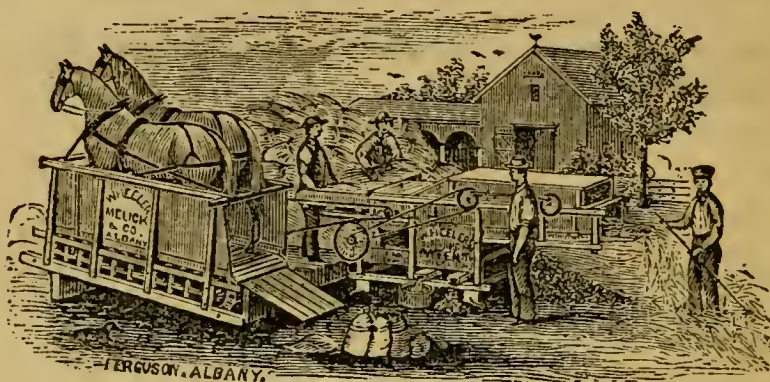
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
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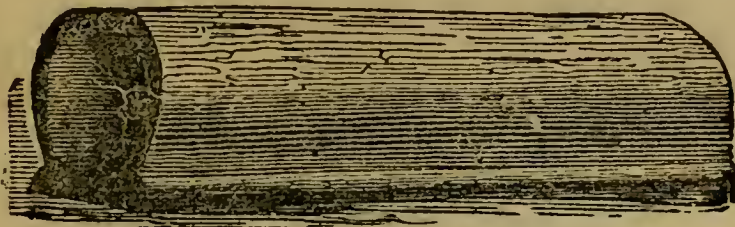
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3½ " " "	.....	15 "
4½ " " "	.....	18 "
5½ " " "	.....	40 "
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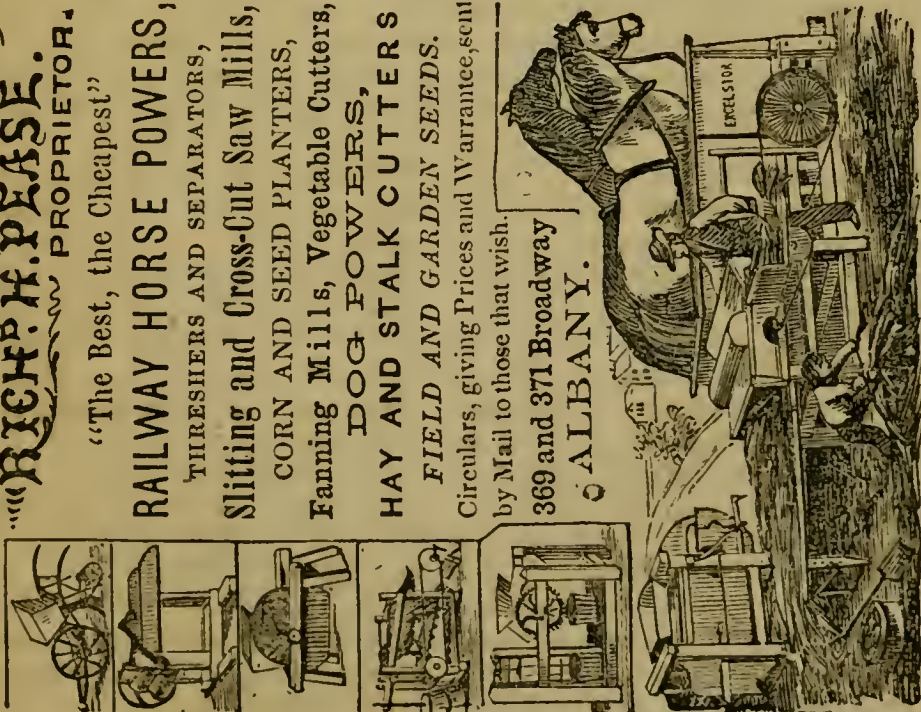
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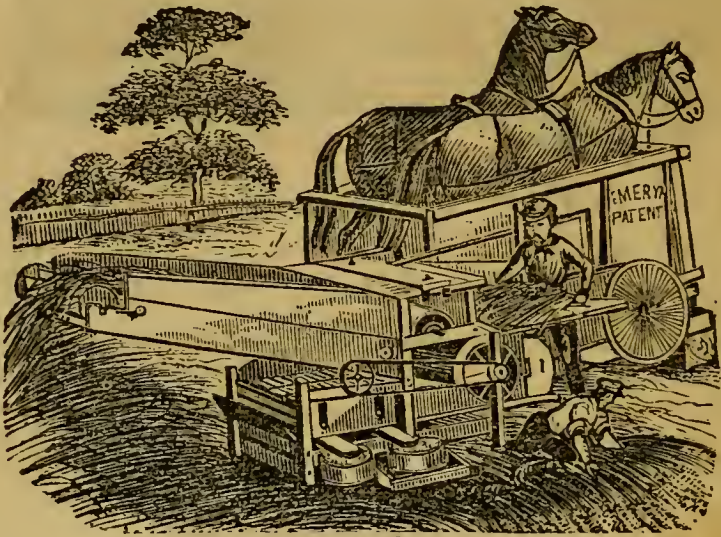
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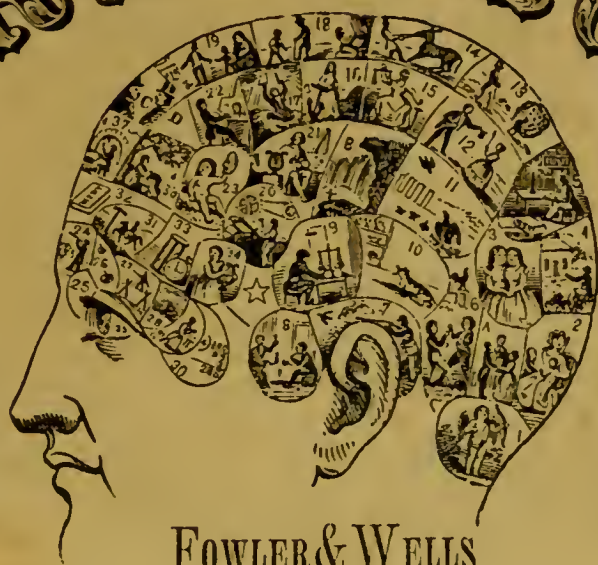
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- |  |  |
|--|--|
| 1. AMATIVENESS.—Sexual love, fondness, attraction, etc.      | 20. CONSTRUCTIVENESS.—Ingenuity, manual skill. [ment.]       |
| 2. CONJUGAL LOVE.—Union for life, the pairing instinct.      | 21. IDEALITY.—Taste, love of beauty, poetry, and refinement. |
| 3. PARENTAL LOVE.—Care of offspring, and all young.          | 22. SUBLINEITY.—Love of the grand, vast, endless, and        |
| 4. FRIENDSHIP.—Sociality, union and clinging of friends.     | 23. IMITATION.—Copying, mimicking, doing like. [infinite.]   |
| 5. INHABITIVENESS.—Love of home and country. [ness.]         | 24. BIRTH.—Fun, wit, ridicule, facetiousness, joking.        |
| 6. CONTINUITY.—Application, finishing up, consecutive-       | 25. INDIVIDUALITY.—Observation, desire to see and know.      |
| 7. VITATIVENESS.—Clinging to life, repelling disease.        | 26. FORM.—Memory of shape, looks, persons, and things.       |
| 8. COMBATIVENESS.—Defense, resolution, force, courage.       | 27. SIZE.—Measurement of quantity, distance, etc., by eye.   |
| 9. DESTRUCTIVENESS.—Extermination, severity, hardness.       | 28. WEIGHT.—Control of motion, balancing, hurling, etc.      |
| 10. ALIMENTIVENESS.—Appetite, relish, feeding, greed.        | 29. COLOR.—Discernment and love of colors, tints, hues, etc. |
| 11. ACQUISITIVENESS.—Frugality, saving, industry, thrift.    | 30. ORDER.—Method, system, going by rule, keeping things     |
| 12. SECRETIVENESS.—Self-control, policy, tact, artifice.     | 31. CALCULATION.—Mental arithmetic, reckoning. [in place.]   |
| 13. CAUTIONSNESS.—Guardedness, safety, provision, fear.      | 32. LOCALITY.—Memory of places, position, etc. [tails, etc.] |
| 14. APPROBATIVENESS.—Love of character, name, praise.        | 33. EVENTUALITY.—Memory of facts, events, history, de-       |
| 15. SELF-ESTEEM.—Self-respect, dignity, self-reliance, inde- | 34. TIME.—Telling when, time of day, dates, how long, etc.   |
| 16. FIRMNESS.—Stability, perseverance, decision, [pendence]  | 35. TUNE.—Love of music, singing and playing by ear.         |
| 17. CONSCIENTIOUSNESS.—Sense of right, justice, duty, etc.   | 36. LANGUAGE.—Expression by words, acts, tones, looks, etc.  |
| 18. HOPE.—Expectation, anticipation, trust in the future.    | 37. CAUSALITY.—Planning, thinking, reasoning, adapting.      |
| 19. SPIRITUALITY.—Intuition, prescience, prophecy, faith.    | 38. COMPARISON.—Analysis, inferring, discrimination, etc.    |
| 20. VENERATION.—Worship, adoration, devotion, deference.     | 39. HUMAN NATURE.—Perception of character, motives, etc.     |
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